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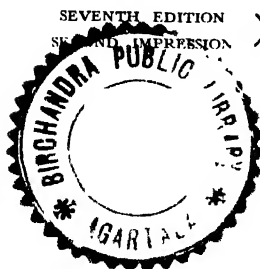
MARINE INSURANCE

Life Insurance

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LIFE INSURANCE

PREFACE TO THE SEVENTH EDITION

In the five years that have elapsed since the publication of the sixth edition of this book, important developments have taken place in the life insurance business. Chief among these are the adoption of modern mortality tables for both ordinary and industrial insurance and the enactment in most states of the Standard Valuation Law and the Standard Nonforfeiture Law. These laws, in conjunction with the continuance of drastically lower interest rates than in former years, have had a marked effect on premium rates, surrender values, and the incidence of the cost of insurance.

When the sixth edition was published, the Second World War was in its closing stages, and since then the restrictions contained in life-insurance policies issued during the war have been generally removed. However, the threat of war has again appeared, raising once more many problems for life insurance companies in regard to the selection of risks, the terms of their contracts, and many other phases of their business.

In preparing this edition, the author has had the assistance of many friends in the insurance business. In particular, his thanks are extended to Messrs. Melvin E. Davis and Gilbert W. Fitzhugh of the Metropolitan Life Insurance Company for advice in connection with the chapters on Industrial Insurance and Group Insurance, respectively; to Mr. Harrison B. Clapp of the Massachusetts Mutual Life Insurance Company in connection with the chapter on Regulation and Taxation; and to Mr. Leighton Foster and his associates of the Canadian Life Insurance Officers Association for their review of the Canadian references.

JOSEPH B. MACLEAN

YARMOUTH PORT, MASS.

PREFACE TO THE FIRST EDITION

This book is an exposition of the principles and practices of sound life insurance, sufficiently complete to give a clear conception of the business as a whole but not so exhaustive as to be of use only to the specialist. Its purpose is to present a practical and nontechnical explanation of this business to meet the requirements of college students, of employees in life insurance companies both in the home office and in the field, as well as of other students of the subject. Other books in this field are either too elementary or too highly technical to meet this need.

The book is based in large part on a course of lectures on life insurance given by the author at Columbia University during the past three years.

The author is indebted to many friends for valuable suggestions and criticism. In particular, thanks are due Mr. Joseph H. Woodward who read the entire manuscript, and whose many valuable criticisms resulted in conspicuous improvements in the original text.

JOSEPH B. MACLEAN

NEW YORK, N. Y.

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CHAPTER I

ELEMENTARY PRINCIPLES

Every plan of insurance is, in its simplest terms, merely a method of spreading over a large number of persons a possible financial loss too serious to be conveniently borne by an individual. Such a "loss" may be caused, for example, by the destruction of property, as in fire insurance; or by temporary loss of earnings, as in health insurance; or by the permanent cessation of earning power through death, as in life insurance. These are simple illustrations. In practice there are many extensions and elaborations of the insurance idea, particularly in the field of life insurance, most of which will be described later in this book.

Cooperation. The first and most essential feature of every insurance plan, of whatever kind, is the cooperation of large numbers of persons who, in effect, agree to share the particular risk against which insurance is desired. Such a group of persons may be brought together voluntarily or through advertising (by the organizer of the plan) or, as in the great majority of cases, by the personal solicitation of the agents of insurance companies.

At one time insurance could be obtained only by applying to individual *underwriters*. These underwriters¹ guaranteed to make good out of their own capital any loss which was incurred, subject to whatever limitations of amount or time were agreed upon. Usually a number of underwriters shared the risk when the amount involved was considerable. It is clear that under this plan some danger exists that the underwriters might be unable to make good in event of loss, even where a group of

¹ The name arose from the fact that each individual who took any part of the risk wrote his name "under the contract" and was said to have "underwritten," or guaranteed, the insurance.

several had shared the risk. Sometimes that has proved to be the case, but under favorable conditions such a plan of insurance is quite feasible when applied for limited periods to risks of a temporary character such as are found in fire or marine insurance or to many of the other miscellaneous kinds of hazards which are generally called "casualty" risks. It is, in fact, the plan of operation of "London Lloyd's," the members of which are the underwriters who undertake, singly or in combination, to grant insurance against such temporary risks. By insuring or underwriting a large number of different risks an average experience is secured, and the necessary "cooperation of large numbers" is obtained.

Such a method is not suitable, however, to any form of risk which is to be covered over a long period of years and which involves the payment by the persons insured of considerable sums over a long time and the accumulation of substantial "reserves" in the hands of the insurer. Such forms of insurance include chiefly life insurance and health insurance which require some more permanent form of organization and a much greater degree of supervision and control by those insured over the funds on hand. In other words, there must be some kind of association of policyholders; this usually takes the form of an insurance company, either mutual or stock.

The Insurance Principle. The basic principles involved in a cooperative insurance scheme can be seen very clearly by considering first a simple form of insurance such as fire insurance. The application of these principles to the more complicated problems of life insurance can readily be understood.

Let us suppose that in a certain community there are 1,000 houses each of which is worth \$5,000. If one of these houses is destroyed by fire, the owner, if not insured, suffers a loss of \$5,000. The probability, *in any particular case*, that a fire will occur during, say, a year is exceedingly small. On the basis of experience it is likely that not more than one or perhaps two fires will take place in the whole community in that time. In other words, there is a very small chance, so far as each homeowner is concerned, of a serious loss; but so far as the community

is concerned it is exceedingly likely that such a loss will be suffered by someone, or perhaps more than one, but no one can say in advance who the unlucky ones will be.

Under these circumstances it is evidently to the advantage of all the 1,000 homeowners to agree that if a fire occurs the loss will be equally divided among all instead of being borne entirely by the one whose house happened to burn down. If, then, a fire occurs, everyone will be called upon to pay \$5 or, if two fires occur, \$10, and so on. The result is that each person has substituted the *certainty* of a small loss for the *possibility* of a large one. He is relatively "sure" of what he has to pay and is, in fact, *insured*.

An arrangement such as that just described would constitute a *mutual fire-insurance association* of a very simple character. Fire insurance companies, instead of making assessments each time a fire occurs, usually fix a *premium* in advance determined on the basis of previous experience. Each person insured pays this fixed premium. If the premium proves to be more than sufficient, the excess represents profit to the stockholders of the company, if it is a stock company, or is returned to the policyholders as a *dividend*, if the company was organized on the mutual plan, *i.e.*, without stockholders. Similarly, if the premium were *less* than sufficient, the stockholders or policyholders, as the case might be, would stand the loss.

Before passing to life insurance there are one or two points which should be noted in connection with the foregoing illustration of the operation of the insurance principle.

Large Numbers. We have said that the essential feature of an insurance plan is the cooperation of *large numbers* of persons for the purpose of sharing a risk common to all. While the cooperation of a *small* number of persons in the manner described above could be described as insurance it would actually perform the function of insurance only to a limited extent and the plan might prove to be unworkable. Thus, in the event of a loss, the individual shares would be relatively large and possibly more than some of the members could conveniently pay. Furthermore, where the number insured is small, the annual cost to each mem-

ber is very likely to fluctuate considerably from year to year. In some years no losses will be incurred, while in other years there might be several losses, resulting in an abnormally high cost in such years.

From a practical standpoint it is necessary that the number of those insured should be large enough so that the accidental fluctuations in the annual numbers of losses will not cause impracticable variations in the amounts of the shares of the members. In other words, the numbers insured must be sufficiently large to yield an approximately *average experience* from year to year. Accidental fluctuations in the annual number of losses or "claims" cannot, of course, be entirely eliminated, but the larger the number insured the smaller will be the annual fluctuation from the average experience. In insurance companies, which have many thousands of persons insured, the number of losses which will occur each year can be estimated in advance quite closely on the basis of past experience.

Equality of the Risk. Another point to be noted is that where all those insured pay the same premium or assessment the assumption is necessarily involved that the risk is substantially equal in every case. If this were not so, some adjustment of cost as between different policyholders or members would be necessary. For example, in the fire-insurance illustration outlined above it is assumed that every house is equally likely to burn down. If some of the houses were built of stone or brick and others were of frame construction this would not be true, and therefore separate classifications would have to be formed taking into account the different kinds of risks. It will be seen that the same thing is true in life insurance because of the different ages of the persons insured, their occupations, their health or physique, and many other factors which affect the probability of death.

Value of Insurance Protection. It will be seen also that, while all pay premiums (or, in the case of a mutual association, assessments), very few, relatively, collect claims, *i.e.*, have losses, in any particular year. At the end of the year, assuming that to have been the period of coverage, it would be foolish for one

of the policyholders (or members) to claim that he had had no benefit since his house did not burn down and that he should therefore get his premium back. If the premiums of those whose houses were not burned down were to be refunded, the company or association would be unable to pay for the losses which had occurred. Perhaps this may seem too obvious even to require mention; but, as a matter of fact, in life insurance it is a very common thing for a policyholder to claim that he had had no benefit from his insurance because, as he says, "I did not die, and my policy has therefore cost the company nothing." The fact is, of course, that under any such insurance scheme as has been discussed every policyholder or member receives something of definite money value which has cost the company something. This is the *protection* or *insurance* which he has had and which he would not have had if he had not undertaken to pay his premium or assessment. It will be seen later that the cost of this insurance protection for those who do not die is a most important element in the financial operation of a life insurance company or, in fact, of any kind of insurance company. The whole basis of insurance is that *all* who are insured must share the losses which are incurred.

Application to Life Insurance. The principle of loss sharing by the cooperation of large numbers can be applied to insurance against the risk of death in the way illustrated above for insurance of houses against fire.

The simplest case would be where insurance was desired for 1 year and where all those to be insured were of the same age and health and otherwise had the same prospects of longevity so that each person should pay the same share of the cost. In such a group it would be possible to agree that a specified amount of insurance would be paid by making an assessment on each member whenever a death occurred. This would be "assessment insurance," a plan the practical application of which is exceedingly limited for reasons which will be apparent later. If the insurance in question were furnished by a life insurance company, as would almost invariably be the case, the company would charge

each person to be insured a "premium," payable in advance, which was based on the approximate probable cost of the insurance as indicated by past experience. If the premium proved to be more than sufficient, the excess would be profit for the company's stockholders or, in a mutual company, would be refunded to those who were insured. If it were less than sufficient, the company would have to stand the loss. Usually premium rates are made sufficiently high virtually to eliminate the latter possibility.

As just stated, the basis upon which the company fixes the amount of the premium is past experience, which is tabulated in convenient form in a *mortality table*.² The mortality table shows the proportion of persons at each age who die within a year. This proportion is the *rate of mortality* for the particular age in question. A number of mortality tables have been constructed on the basis of the experience among insured lives. For purposes of illustration we may use the Commissioners' 1941 Standard Ordinary Mortality Table,³ which shows the rates of mortality tabulated below.

C.S.O. 1941 MORTALITY TABLE

Age	Number dying within 1 year out of each 1,000	Age	Number dying within 1 year out of each 1,000
20	2.43	60	26.59
30	3.56	70	59.30
40	6.18	80	131.85
50	12.32	90	280.99

² Chapter IV is devoted to a full explanation of the construction and use of mortality tables.

³ This table represents the combined experience of the principal life insurance companies during the years 1930 to 1940. It was published in 1942. It is generally referred to as the "C.S.O. Table."

An examination of this table will show that the cost of 1 year's insurance at, say, age thirty, will be about \$3.56 for each \$1,000. Of course, in practice it would be necessary to add something for the expenses of operating the business. On the other hand, since the premiums are always paid in advance while death claims are spread over the year, some allowance may be made for interest earned. At present we need not concern ourselves with these practical details but may consider only the amounts payable as death claims. If, then, past experience happened to be exactly repeated, the death claims would be exactly paid for by the premiums.

Yearly-renewable-term Insurance. If, now, the survivors of those who applied for insurance for 1 year at age thirty desire to continue the arrangement for another year, it is necessary only for each to pay another premium based on the death rate at age thirty-one instead of age thirty. The premium for the second year's insurance will be slightly more than for the first year since the death rate increases as the age increases, as can be seen from the extract from the mortality table given above.

A considerable amount of life insurance is transacted on this *yearly-renewable-term* plan, particularly *group insurance*⁴ and *reinsurance*, i.e., the insurance of excess amounts by one insurance company in another. The plan is suitable for these purposes but, as will be seen later, has important practical limitations when used in the ordinary way by individuals. The contract, or "policy," issued by the company to the person insured under this plan provides for insurance for a specified number of years and contains a schedule of the successive premiums to be paid, which, as explained above, increase each year. This plan provides the simplest form of life insurance. We shall return to a further consideration of this method of insurance, but before doing so it is desirable briefly to consider *assessment insurance*.

Assessment Insurance. Many attempts have been made to provide insurance on the basis of collecting an assessment from each person insured whenever a death occurred. The yearly-

⁴ Group insurance is explained in Chap. XV.

renewable-term plan is very similar in its nature to such an assessment plan. On the yearly-renewable-term plan, an annual premium based on past experience at the respective attained ages is collected from each member *in advance* instead of assessments based on actual *current* experience and payable *throughout* the year. If the assessments payable by the respective persons insured under an assessment plan were determined in proportion to the actual death rates at the several attained ages of the members during each year, the resulting costs would be about the same under both plans and there would be no fundamental difference between them.

The fact is, however, that in most assessment plans the assessments have not been made in proportion to the death rate. Sometimes death claims have simply been divided equally among all members without any reference to age. In other cases, where it was realized that a member's assessment ought to bear some relation to his age, various incorrect rules have been adopted, such, for example, as making the assessments in proportion to the death rate at the member's age at the time of his entry into the plan and without any subsequent adjustment for increase in age.

The general idea behind the plan of equal assessments for all members, irrespective of age (where any realization existed of the importance of taking age into account), was that if a sufficient flow of new members at low ages were obtained the average age of the whole group would remain about the same and the total death rate would not increase, so that the annual assessments would remain at about the same figure each year.

Unfortunately this is a fallacy. It is not true that if the average age of all the members does not increase the number of deaths or, rather, the total death rate will not increase. This can easily be seen from the following simple illustration, using, again, the C.S.O. Table as an indication of probable deaths.

It will be seen from the table on page 9 that, in a group of 2,000 persons of whom 1,000 are age twenty and 1,000 age sixty and in which the average age is, therefore, forty, there will be

Age	Number of members	Death rate per 1,000	Probable number of deaths
40	1,000	6.18	6
20	1,000	2.43	2
60	1,000	26.59	27

about 29 deaths in a year, or 14.5 per thousand, as compared with 6 per thousand in a group all aged forty.

Since most of these associations commence operations with a great preponderance of young members, the average age is practically certain to increase. Even if for a time it does not—because of a very large influx of new members—the total death rate will certainly increase when members begin to reach the higher ages. Assessments will then have to be increased. Experience shows that whenever this happens some of the younger members will drop out, while fewer new members will be obtained. This will cause a further and more rapid increase in the death rate and therefore in the assessments, and sooner or later it will be impracticable to continue.

The assessment plan of insurance does not merit more extended consideration. At one time it was widely believed in, and many fraternal societies and other similar organizations attempted to provide insurance in that way. Such plans have collapsed, or a complete reorganization on a sound basis has been effected, usually involving real hardship to older members. It is pretty generally understood now that no plan of life insurance which does not recognize that the actual cost to each member must be determined on the basis of his *attained age* can continue to operate except for a limited period.⁵

If assessments were properly graded by attained age, such a

⁵ In certain states the organization of new assessment life insurance associations is not permitted.

plan might, *in theory*, be operated indefinitely. It would then be equivalent to a yearly-renewable-term plan.

Limitations of the Yearly-renewable-term Plan. If the table of approximate death rates on page 6 is referred to, it will be seen that, omitting any provision for expenses, the cost of insurance on the yearly-renewable-term plan will (on the basis of the table of mortality used) be about \$2.50 per \$1,000 at age twenty, about \$6 at age forty, and about \$27 at age sixty. The cost increases every year as the age increases. The increase as between one age and the next is at first very small but accelerates with advancing age. The increase in cost per \$1,000 as between ages thirty and thirty-one is, in fact, only \$0.17; between sixty and sixty-one it is \$2.19; between seventy and seventy-one it is \$4.97. The cost if continued to old age would be about \$40 at age sixty-five, \$89 at age seventy-five, and \$194 at age eighty-five for each \$1,000 of insurance. The amount paid in any year is simply the proper share of the death claims in that year according to each person's age. Everything that has been paid in previous years has been used to pay the claims for those who died, and every year the insurance is, in effect, a new transaction.

Under this plan, if it were continued without limitation, many, and eventually all, of the older policyholders would drop out because they would be unwilling or unable to pay the rapidly increasing premiums. There would also be a tendency for any who were in bad health to continue their insurance as long as possible in spite of the high cost, while those in good health would be more likely to give it up. This situation would further accelerate the increase in cost since the *adverse selection* by both healthy and unhealthy lives (the former tending to withdraw and the latter to continue) would be likely to increase the mortality rate over that provided for. Thus from the point of view both of the company and of the policyholders, the yearly-renewable-term plan, while perfectly feasible for insurance covering a limited period, is not practicable for insurance at the older ages or for permanent, *i.e.*, whole-of-life, insurance although *theoretically* there is no reason why it cannot be carried out to the limit of life. Consequently those companies which offer

insurance on this plan invariably place a limit on the period during which the insurance may be renewed. Usually, yearly-renewable-term insurance is not continued beyond age sixty or, at most, age sixty-five. Exceptions are reinsurance and group insurance. In these cases, because the element of *selection* (to continue or discontinue) by the person insured is virtually eliminated, it is feasible to continue insurance on the yearly-renewable-term plan without limit.

The majority of people who insure their lives desire insurance which, if necessary, may be continued until death no matter at what age that may occur. A plan of insurance which involves a larger premium outlay every year has, as has just been seen, practical disadvantages even in those years when the annual increase is small. Insurance covering either a term of years or the whole of life paid for by premiums which do not increase is accomplished by the *level-premium* plan. This is the plan used by all the regular life insurance companies for most of the insurance issued. It is the most practicable plan for whole-of-life insurance or insurance extending to advanced age. The level-premium plan is a combination of investment and insurance, not, like the yearly-renewable-term plan, pure insurance. It is most important that this be realized at the outset.

The Level-premium Plan. It has been explained that, because the chance of death within a year increases with age, yearly-renewable-term premiums likewise increase each year and that eventually they increase to such an extent that no one would pay them. Other arrangements of premium payments are, however, possible.

If a mortality table upon which to base our calculations as to the probable death rate is selected and if an interest rate at which the excess payments (over and above the actual cost of insurance) will be accumulated is assumed, one can, by a purely arithmetical process, find what *uniform*, or *level*, annual premium payable by each of the persons insured will be sufficient to meet all death claims as they occur.⁶ A *level* premium, the same every

⁶ The process of calculating level premiums is explained in Chap. V. For the present, it may be taken for granted.

year, is, of course, not essential, but it is the normal and usually the most suitable arrangement. Other arrangements, such as a level premium of a specified amount for a limited period followed by a higher level premium for the remainder of life, are sometimes adopted, as in the "modified life" policies issued by some companies. Under any such "leveling" arrangement, the premiums in the earlier years will be greater than the cost on the yearly-renewable-term plan, and in the later years they will be less.

The level-premium plan, in fact, introduces an entirely new element into the scheme of operation: the invested fund formed by the excess payments. This fund is called the *reserve*, which is rather an unfortunate term since it is really not a reserve in the ordinary commercial sense implying *surplus* but is a fund which the company must maintain if it is to be able to pay all death claims and without which it would be insolvent. Moreover, the existence of this reserve causes a radical change in the true amount and cost of insurance. Comparing a level-premium plan with a yearly-renewable-term policy of the same face amount, we note that under the former, when a policyholder dies, the accumulated reserve on his policy will, of course, be available as part of the "face amount" payable. Consequently, as the reserve increases, the actual insurance, or *amount at risk* (face amount *less* reserve), decreases. Thus the increasing death *rate* is offset by a decreasing effective *amount* of insurance, and the actual cost is kept down to a practicable figure.

The general basis and working of the level-premium plan will be better understood by considering a numerical example.

At age thirty-five the level premium, payable every year until death, for insurance of \$1,000 on the basis of the C.S.O. Table⁷ and assuming that the excess payments or reserve will be invested at $2\frac{1}{2}$ per cent, is \$20.50. The actual death rate at age thirty-five, by this table, is 4.59 per thousand, so that the "excess payment" in the first year is about \$16. However, by age fifty-seven the death rate has reached 21.00 per thousand, so that the annual

⁷ The C.S.O. Table is now used by the majority of life insurance companies for premium calculations (see Chap. IV for further particulars).

cost (on the yearly-renewable-term basis) is then approximately equal to the level premium and thereafter exceeds it.

The following table shows the accumulated reserve and other figures illustrating the operation of the level-premium plan:

ORDINARY-LIFE POLICY FOR \$1,000. AGE THIRTY-FIVE. C.S.O. TABLE,
2½ PER CENT

Year	Attained age, beginning of year	Reserve (even dollars)	Net amount at risk	Death rate per 1,000	Actual cost of insurance ¹
1	35	\$ 16	\$984	4.59	\$ 4.52
5	39	85	915	5.81	5.32
10	44	174	826	8.04	6.64
20	54	362	638	16.65	10.62
30	64	547	453	36.58	16.57

¹ In the "actual cost of insurance" no allowance has been made for interest during the year.

Looking first at year 1, we see that the accumulated excess payment, or reserve, at the end of the year is \$16. Consequently, if death occurs in that year the amount to be found from the current year's premium payments (of all the policyholders) is only \$984, instead of \$1,000, and the effective "insurance" is therefore not \$1,000 but \$984. This, of course, is because the policyholder has, himself, made an "excess payment" of the difference. Thus the cost of insurance for each member, instead of \$4.59 (the yearly-renewable-term rate at age thirty-five for insurance of \$1,000, omitting allowance for interest), will be \$4.52 ($\4.59×0.984).

In the same way, in the tenth year the reserve (accumulation of excess payments) on each policy has increased to \$174, and the net amount at risk has therefore fallen to \$826 (\$1,000 less \$174), so that the actual cost of that year's insurance is \$6.64 ($\8.04×0.826) as compared with \$8.04, the cost of insurance of \$1,000 on the yearly-renewable-term plan.

The effective operation of the plan becomes more striking at higher ages. At the end of 30 years the reserve has become \$547; the amount at risk (true insurance) is only \$453; and the cost of insurance is \$16.57 instead of \$36.58, as it would have been if there had been no reserve, *i.e.*, on the yearly-renewable-term plan.

Investment in the Level-premium Plan. It is very important to note that under the level-premium plan a policy of \$1,000 does not give actual *insurance* of \$1,000 (*i.e.*, the company is never "on the risk" for that amount) but only of \$1,000 *less* the policyholder's own accumulated excess payments. It is thus evident, as already pointed out, that the plan is really not pure insurance but rather a combination of a decreasing insurance with an increasing investment, the two amounts being computed mathematically in such a way that in any year their *sum* is equal to the "face amount" payable under the policy. Failure to grasp this simple fact has led to a great deal of misunderstanding of the level-premium plan. For example, it is often asserted by persons who do not understand the operation of the level-premium plan that, when death occurs, the company should pay the reserve in addition to the face amount of the policy. Obviously a policy under which the company paid at death the face amount *plus* the reserve (or plus any additional amount) would require a higher premium rate than that under which only the face amount is payable. The essence of the level-premium plan is the continual reduction in the net amount at risk, this reduction being exactly offset by the increasing investment (reserve).

The financial operation of the level-premium plan involving the accumulation of excess payments, or "reserves," is quite complicated. It is not nearly so simple to operate or to understand as the yearly-renewable-term plan, but it is the *only* plan under which it is possible to provide insurance payable at death *no matter when that may occur* without the possibility of the cost reaching a prohibitive figure.

Further Comparison with the Yearly-renewable-term Plan. The difference in nature and operation of these two plans may be shown in another way.

The diagram on page 16 shows graphically the increasing cost of insurance of \$1,000 on the renewable-term plan and also the cost on the level-premium plan. In this illustration figures are based on the rate of mortality by the C.S.O. Table and on the assumption that reserves (on the level-premium plan) are invested at $2\frac{1}{2}$ per cent. A study of this diagram will make clear most of the fundamental considerations involved in a comparison between the two plans and will also make apparent the limitations of the former and the advantages of the latter.

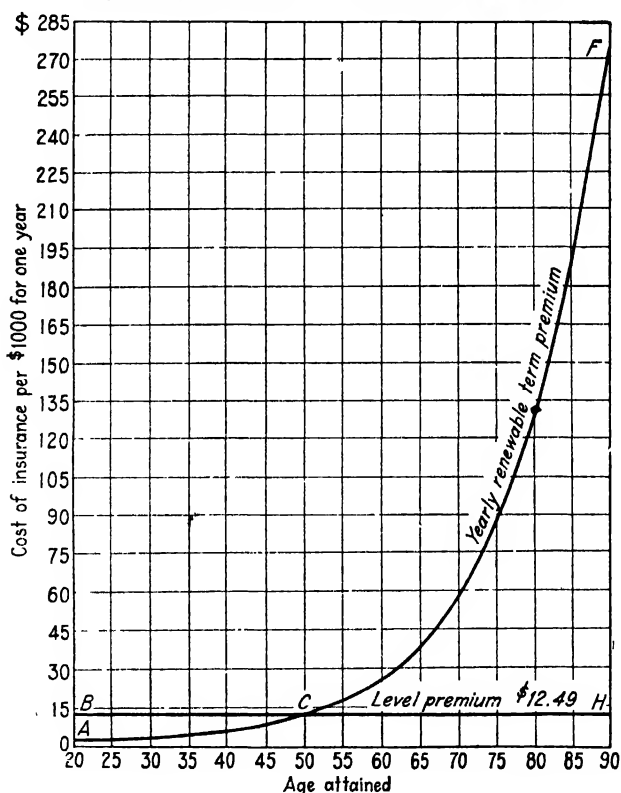
The curved line from *A* to *F* shows the increasing payments necessary at successive ages to provide insurance of \$1,000 in each year from age twenty until extreme old age. Thus at age twenty the payment required is \$2.37; at age forty it is \$6.03; at age sixty, \$25.94; at age eighty, \$128.63. The characteristic features of the curve are, first, a very low initial cost and a very slow and gradual increase until about age fifty; second, a high and rapidly accelerating cost from that point onward; and, third, a prohibitive cost from about age seventy or seventy-five. The straight line *BCII* represents the annual level premium, *viz.*, the premium for an *ordinary-life* policy issued at age twenty under which \$1,000 is payable in event of death at any time. The amount of this level premium, on the same basis as to assumed death rate and interest, is \$12.49.

From age twenty to age fifty the level annual premium for ordinary life insurance issued at age twenty is higher than the premium payable on the yearly-renewable-term plan, the difference in cost in any year being measured on the diagram by the distance between the curved line and the horizontal line. After age fifty, however, the level annual premium is less than the yearly-renewable-term premium. The total excess cost on the level-premium plan in the early years, where this plan calls for a greater payment than on the increasing-premium plan, is represented in the diagram by the area bounded by *ABC*. The total excess cost on the increasing-premium plan in the later years, when that plan is the more expensive, is represented by the area *FCH*. It is evident at a glance that there is a great disparity between the respective areas and that the first is only a small frac-

tion of the second. In other words, the small additional sums paid in the early years are offset many times by the lower payments thereafter. The two arrangements (providing the same

COMPARATIVE COST OF INSURANCE ON LEVEL-PREMIUM AND RENEWABLE-TERM PLANS

(Age at issue 20; amount of insurance \$1,000)



benefit, viz., \$1,000 at death) are nevertheless exactly equivalent, the two sets of premium payments having, at the outset, exactly the same present worth.

On examination of the diagram, it will be seen that, in the case of all those who die before about age sixty⁸ (having entered at

⁸ Not fifty, because the difference saved would earn interest.

age twenty), the increasing-premium plan would be the cheaper. The fact is that, in the first half of the normal range of life, death is only a chance and, so far as any given year is concerned, a very small one. The odds are greatly against it. But if it does not occur in the first half, the probability that death will occur in the latter half of life becomes a certainty, and with the passage of time the odds turn in favor of death even within a year. Thus, comparatively speaking, the value of insurance protection is small in the first half of life but great in the latter half.

Again, the chance at age twenty of living to a very high age; say, over eighty, is comparatively small (the odds, in fact, are about 4 to 1 against it), so that it may be argued for the increasing-premium system that, although at these advanced ages the cost of insurance is very great, very few will live to pay it. Apart from the fact that the few who do so survive are financially in an unfortunate position, this argument has little force. At age twenty, according to the table we are using, the chance of living to sixty-nine is even. Hence, one out of every two will live to pay, if he can, costs which are, as shown in the diagram, almost five times the level-premium rate, with the prospect of paying still higher rates each year.

On the level-premium plan each member is, in effect, investing a steadily increasing amount each year since he is providing out of his excess payments an increasing part of the amount payable at death. The rapidly mounting chances of death are thus continually counteracted by the fact that each year a smaller amount is required from income to make up the difference between the fund on hand and the full sum insured.

The reader is now in a position to realize the nature of the outstanding differences between the two plans of insurance which have been discussed. The level-premium plan is not pure insurance. It requires larger payments at the beginning than are necessary for pure insurance of the nominal face amount and involves, therefore, an investment feature represented by the reserve.

The level-premium plan of insurance is the most practicable plan—in fact, the *only* practicable plan—for furnishing *permanent* or long-term protection extending to the higher ages, while

yearly-renewable-term insurance is suitable only for limited periods and where insurance extends only up to about age sixty-five. The level-premium plan is applicable not only to whole-of-life insurance but also to term insurance and other forms which are described hereafter.

CHAPTER II

ORGANIZATION OF LIFE INSURANCE COMPANIES

A life insurance company may be organized either as a *stock* company or as a *mutual* company.

Stock Companies. A stock life insurance company is one which is organized by stockholders who subscribe the necessary funds to launch the business. It is formed primarily for the purpose of earning profits for the stockholders who own and control the company. Stock companies usually issue, chiefly, *nonparticipating* policies (*i.e.*, without *dividends* to policyholders); but many also issue *participating* policies (at higher premium rates), the surplus earnings from which, or a large part thereof, are paid to the policyholders.

Mutual Companies. A mutual life insurance company is a co-operative association of persons established for the purpose of effecting insurance on their own lives. The policyholders are the "members"—corresponding to the stockholders in a stock company. A mutual company is not formed for the purpose of making profits, and the "company" simply is the aggregation of all the individual policyholders, or members.

Mutual companies issue participating policies, which provide for adjustment of cost from surplus earnings (dividends). In the absence of legal restrictions a mutual company may also issue nonparticipating policies, but the holders of such policies are not members of the company. Any profit or loss from such business belongs to or is borne by the holders of participating policies.

The expression "mixed company" is sometimes used to denote a company which issues both participating policies and nonparticipating policies. The term has no fixed or authoritative meaning and may be applied to either stock or mutual companies. It is not a third classification. There are only two kinds

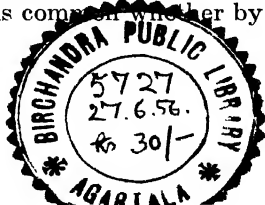
of companies, stock and mutual. If the company has stockholders, it is a stock company. If it has not, it is a mutual company irrespective of the kinds of policies it issues.

There has been some question as to the propriety of a company's, whether stock or mutual, issuing both participating and nonparticipating policies. When the New York Insurance Law was amended in 1906, *domestic* (i.e., New York) companies were prohibited from writing both kinds. This meant that mutual companies, domiciled in New York, could not thereafter issue any nonparticipating policies as some of them had been doing, while stock companies could issue either nonparticipating or participating policies but not both.

There appears to be no very good reason for this rule which is based on the idea that if a company wrote both kinds of policies some inequity might arise as between the two classes in regard to the disposition of profits or losses.

About 20 years later (1926) this limitation was extended—by ruling of the Superintendent—to nondomestic companies, which, in the meantime had been permitted to write both kinds. In 1937 another ruling was made permitting nondomestic companies which had been doing both kinds of business in New York prior to 1907, but not any others, again to write both participating and nonparticipating policies in New York.

It seems reasonable that mutual companies which have the necessary organization for conducting an insurance business should be permitted to establish a “fixed-cost” department for those who prefer that plan if the participating policyholders (members) are willing to undertake the risks involved as they do (in most mutual companies) by the issue of nonparticipating annuities. Similarly, under adequate regulation, it is difficult to see any objection to the operation of a “mutual” department by a stock company. Both classes of business are essentially the same, i.e., both are essentially mutual in character, depending on the same principle of the cooperation of large numbers. Outside of New York, both in the United States and elsewhere, the practice of issuing both kinds of policies is common whether by stock or mutual companies.



The comments in this chapter relating to stock companies have to do mainly with those issuing either wholly or principally non-participating policies.

Organization of Companies. When a company is organized some plan must be adopted to ensure that sufficient funds will be available from the start to take care of adverse fluctuations in the death rate due to the small number of lives insured. This may be accomplished in two ways. The actual commencement of business (issue of policies) may be postponed until applications for insurance have been received from a sufficiently large number of persons to form a group in which average results may be expected, or at least in which there is unlikely to be any very serious fluctuation. Thus, if a company were to start business with only 100 policyholders, the number of deaths in the first year, according to the mortality table, should be only one or two; but in such a small group the actual number of deaths might, through accidental fluctuation, be several times the number provided for. If the company had started business with 1,000 policyholders instead of 100, it is improbable that such a fluctuation would occur. The New York Insurance Law provides that, in organizing a mutual life insurance company, applications for insurance from 500 persons for a total amount of \$1,000,000 must be received, and the first premiums paid, before business is commenced.

The other method of organizing a life insurance company is to provide a guarantee fund which can be drawn upon in the event that claims in the early years should prove to be excessive. Under this method a large number of policyholders, although desirable, is not absolutely necessary before beginning business. It is on this basis that stock life insurance companies are formed, the stockholders advancing the fund in the form of capital and surplus. The "guarantee-fund" plan of organization has also been used to form mutual companies, chiefly in Massachusetts. In that case, the fund is considered as a loan to the policyholders, interest thereon being provided for until the loan is repaid, which is done when the company's surplus arising from insurance operations is sufficient. Thereafter, the company proceeds on a purely mutual basis.

There are, therefore, two kinds of life insurance companies: mutual companies, which are purely cooperative associations in which the members obtain insurance at cost, whatever that may be; and stock companies, in which the policyholders are "customers" paying a fixed price for insurance, and which are formed and financed by persons not necessarily insured in the company but who wish to make a profit from carrying on the business of life insurance just as they might from any other kind of business.

The procedure in organizing a new life insurance company is, in general, the same for both stock and mutual companies. In either case the actual organization must be carried out under the provisions of the state laws applicable to corporations, and where a special insurance law exists for the regulation of insurance corporations, as is usual, the organization must be in accordance with that law. Prior to the existence of general corporation or insurance laws, insurance companies could be organized only by a special act of the state legislature. This special act was the "charter" of the company. It comprised a statement of the powers proposed to be taken and the manner in which these powers could be exercised. Later, life insurance companies were formed under the provisions of the general corporation law and then under special laws relating to the formation and operation of insurance companies.

The provisions of the various state insurance laws as regards the organization of companies are similar. The necessary steps required to organize a company under the law of New York are illustrative of the general procedure. In that state a corporation composed of at least 13 persons is required. These persons first decide upon the scope of the business which they propose to undertake and upon the name of the proposed company. They then proceed to draw up the charter. The charter sets forth the name of the company, its location, the kind of business to be transacted, its powers and how they will be exercised, the method of internal government, the amount of capital (if the company is a stock company), and any other necessary particulars. The organizers must advertise in a certain manner their intention to incorporate themselves as an insurance company. They must

then file with the Superintendent of Insurance a "certificate of intention" and a copy of the charter; when that official has recorded the certificate and approved the charter, they become a corporation. They are now ready to open the books for the purpose of receiving actual subscriptions to the capital if the company is to be a stock company or to receive applications for insurance and the premiums therefor if the company is to be mutual, but they may not as yet issue policies.

When the total amount of the capital and surplus required by law in the case of a stock company is paid in, or when the premiums on the necessary minimum amount of insurance in the case of a mutual company have been paid in, and when the statutory deposit required to be placed with the Superintendent has been made, the organization may be completed. This is done by calling a meeting at which directors are elected and, having been elected, authorize the issue of the stock or the policies as the case may be. At this meeting bylaws are adopted by the company to regulate the internal management of its affairs. The bylaws cover such matters as the duties of officers and committees, regulations as to investments (subject to any legal limitations), the maximum amount of insurance to be written on any one life, the territory in which business is to be transacted, and so forth. The bylaws must, of course, be in accordance with the powers granted in the charter. The newly elected directors will then meet for the purpose of electing officers; they will also elect committees from their own number to take charge of particular departments of the general administration of the company and will delegate to such committees the necessary powers. Otherwise, action of the full board on detail questions would be necessary. With the appointment of the officers the necessary staff may be engaged, supplies purchased, and active business begun.

Stock Companies vs. Mutual Companies. There has been a great deal of controversy over the relative merits of stock and mutual companies chiefly from the policyholders' point of view. In discussing these two types of companies several points should be considered. The most important are organization (including

relative security to policyholders), control, and cost, each of which will be examined briefly.

Organization. The first requirement in organizing a company is the provision of funds for (1) the expenses of organization; (2) the deposit required to be made with the state; and (3) a surplus or contingency fund to provide for the possibility of adverse experience or losses in the early stages.

In the case of a mutual company, funds for these purposes must be obtained either by the voluntary subscription of those who are launching the company or by borrowing. In the case of a stock company, the necessary funds are obtained through the sale of stock at a premium, which creates an immediate "surplus" fund out of which the expenses of organization can be paid. Apart from other considerations, therefore, it is easier to form a new company on the stock basis than on the mutual basis, since it is unnecessary to secure immediately a large number of persons willing to take policies in a new concern and since funds other than insurance premiums are at once available to meet necessary outlays and to provide against adverse fluctuations in the mortality experience or other losses.

It will be seen that, in the early stages of a stock company, the capital and surplus paid in by the stockholders furnish a guarantee of payment which is very important to the policyholders. In later years this element of security becomes less important. In most stock life insurance companies the capital stock, although it may amount to a very substantial sum, is eventually small compared with the total liabilities of the company. The necessity for a guarantee fund to guard against unfavorable fluctuations and losses still exists; but in a mutual company such a fund will have been accumulated from the surplus earnings and miscellaneous profits of the business.

After some years, in either case—stock or mutual—the company will have become well-established with an adequate surplus or "contingency fund" and with an adequate volume of insurance in force. In a mutual company *all* the funds will belong to the policyholders and all profits arising from these funds and from the operations of the business will belong to them and will be

available to reduce the cost of insurance or as additional safety funds. However, it does not follow that the cost of insurance in a stock company will eventually, or in the long run, be higher than in a mutual company. There are many other factors which affect cost, such as efficiency and economy of operation. These will be discussed later.

The first life insurance companies in this country were stock companies. This was the natural result of the experience under the original system of individual insurers which obtained before corporations undertook the business of life insurance. Under that system there was no adequate security. The "underwriters" of the policy might be financially sound and responsible at the time of signing it and yet be unable to pay when the policy became a claim. It was natural, therefore, that, when companies were first formed to do a life insurance business, emphasis was placed on the fact that payment of claims was secured by a substantial guarantee fund represented by the capital stock.

The premium rates of the first stock companies were higher than necessary; and since experience had shown that, in other branches of insurance, the mutual principle was advantageous, it was natural that, in due course, companies were formed which undertook to give back a part of their profits to the policyholders. The next step was the formation of purely mutual companies without shareholders or capital stock, the permanence of the company and the broadness of its scale of operations constituting the guarantee of payment.

In the state of New York, at the present time, the law provides for the formation both of stock companies and of mutual companies. In order to form a mutual company it is necessary, as already stated, to secure in advance the applications of 500 persons for a total amount of insurance of \$1,000,000, the object being to secure a sufficiently broad basis upon which to start business and thus to eliminate, as far as possible, the risk of serious fluctuation which might put the company out of business at an early stage. It is further necessary, before proceeding to business, to make a deposit of \$100,000 with the Superintendent of Insurance. As considerable expense is involved in the details

of organization, in paying for office rent, purchase of supplies, wages, and so on, a working "capital" considerably in excess of \$100,000 is necessary which, in the case of a mutual company, must be raised by means of a loan. Although mutual companies have been formed in this way, it is evident that these requirements present serious practical difficulties. In fact, no mutual company has been organized under the New York law since these provisions were enacted.

All the companies which have been formed in New York since 1906 are stock companies. In the case of a stock company the New York law requires that the capital stock shall be not less than \$100,000 and that before the company commences business the capital, together with a surplus of at least \$50,000, shall be paid in. It is further necessary to make a deposit with the Superintendent before commencing business. The same \$100,000 may, however, fulfill both requirements, serving both as capital and as deposit. The surplus is available toward the expenses of organization. It must be paid in by the organizers or obtained by selling the stock at a premium. In practice, the stock of a new life insurance company is always sold at a premium in order to secure initial working capital. For example, each \$100 of stock may be sold at \$150. The capital liability created is, in that case, \$100, although \$150 in cash has been received. In this way \$50, appearing for the moment as "surplus," is made available for expenses of organization. Actually the entire \$50 would not, as a rule, be available because part of it would be paid out as commission to stock salesmen. Such commission is one of the heavy expenses of organizing a stock company. Because of these practical difficulties of organization, it has been suggested that it would be preferable to sell the stock at its par value, permitting the company to use part of the capital for expenses of organization. However, under the present requirements of the law "capital stock" must be shown as a liability in any financial statement, and unless this requirement were removed it would be impracticable to use any substantial part of the amount paid in for stock for organization expense. Moreover, many of the items on which money must be spent at the time of organizing, such as furniture

and other supplies, are not admissible assets in a financial statement. An initial "surplus" therefore is necessary, which means that stock must be sold at a premium.

Probably the most practical system of organization for a mutual company is that already mentioned which provides for a temporary "guarantee capital," or guarantee fund, with a provision for its redemption when the surplus funds of the company are sufficient for that purpose. In this way the company is, in effect, organized on a stock basis, the "capital" existing only so long as there is a need for it. Thereafter the company proceeds on the mutual plan.

Life insurance companies are totally different in their nature from ordinary commercial corporations formed for profit. The business of life insurance, whether conducted on the stock or on the mutual plan, is fundamentally a cooperative one. Its object is to spread over a large number of persons a risk which might prove disastrous if borne by an individual; and, while any such cooperative plan may require the aid of capital to put it in operation, the requirement is only temporary.

Control. The second point to be considered in a comparison of stock and mutual companies is the question of control and the responsibility of management to the policyholders. A stock company is owned by the stockholders. The directors and officers are appointed by the stockholders and are responsible to them and not to the policyholders. As in any other stock corporation, the actual control of the company will lie with the holders of the majority of the stock, who may be a small group or even a single individual.

Concentration of control has both good and bad features from the policyholders' point of view. It has elements of danger, since the policyholders have no voice in the management and, if those in control of the stock do not consider sufficiently the interests of the policyholders, the latter may find themselves in a disadvantageous position. For example, by unwise or even unscrupulous handling of the investment of the company's funds the security behind the policyholders' contracts may be endangered. Moreover, where control is concentrated it may pass from

one person or group of persons to another so that, even though the existing owners of a stock company may be efficient and may be managing the company with a proper regard for the interest of the policyholders, this may not continue to be the case. Such dangers are, however, largely hypothetical in the case of substantial and well-established stock companies. The fact is that, in view of the very close state supervision to which all life insurance companies in this country are subject, holders of the nonparticipating policies of stock companies—at any rate, of the larger companies—need concern themselves but little with the possible adverse effects of a change of ownership of the stock.

On the other hand, concentration of control has its advantages. For instance, the removal of incompetent officers can be accomplished more readily in a stock company than in a mutual company. It will be admitted, also, that those who have invested their own money in an enterprise are likely to give it their close attention and to provide a good and efficient administration. Further, although in theory the policyholders own and control a mutual company, in practice this is really the case only in a limited sense. The policyholders are numerous; they are scattered all over the country; they have no convenient means of intercommunication; the individual stake of each in the company is small. Many of them do not understand the nature of a mutual company or even know that they have the right to vote at elections for directors. Even if they did know it, the practical difficulties of taking effective action might be too great to be overcome. In mutual companies the directors and officers, in effect, control the company. Although the machinery exists for the policyholders to effect a change of control, if that should be desirable, the procedure is necessarily difficult and as a practical matter the real control is likely to remain with the directors and officers. Usually there is no good reason why it should not. In mutual companies it was formerly the custom to secure from each policyholder at the time his policy was issued a proxy authorizing some official of the company to vote in his behalf at all elections. These proxies were valid for a period of years, unless specifically revoked, and it was a very simple matter for the officers of the

company to collect a sufficient number and to hold them in reserve in case of unexpected action on the part of any group of policyholders who wished to exercise their power in a manner not agreeable to the administration.

These former methods of improperly retaining unlimited control of mutual companies and the defects of stock control have both led, on occasion, to the same result—irresponsibility on the part of those who were in charge of the actual conduct of affairs. Those who controlled the majority interest in stock companies had no fear of policyholders and, sometimes, no regard for their wishes, while the officers of the mutual companies, although in theory accountable to the policyholders, were not really so. This lack of responsibility in the conduct of certain companies led to the celebrated Armstrong investigation in New York in 1905 as a result of which many changes in the law were made, notably in regard to the participation of policyholders in the control of mutual companies.

Stock companies are still controlled in practically the same way as in 1905. There are obvious legal objections to depriving stockholders of full control of their own property. The disadvantages of stock control which have been outlined above are sometimes guarded against, however, by providing for some limited form of participation by the policyholders in the government of the company. Thus the policyholders may have the right to elect a certain number of the directors—naturally a minority of the whole. The laws of some states also provide a means of passing from stock control to mutual control. This "mutualization" of stock companies is of considerable importance and is considered more fully later in this chapter.

The situation in the mutual companies has been improved by legal restrictions on the proxy system and by provision for a more active participation by the policyholders in the election of directors. It is probably true, however, that the majority of policyholders of mutual companies are ignorant of their real status and powers and take no part in the control of the company. As a rule, it is not necessary for them to do so. When an efficient and responsible administration is in power, it is not necessary

that the policyholders actually participate in the management, particularly in view of the character and extent of the supervision exercised by state authorities. On the contrary, there would be serious practical objections, considering the highly technical nature of the business, if it were too easy for policyholders to interfere either individually or collectively in the management. It is sufficient that means are provided whereby, if things are going wrong, the policyholders may step in and take charge of their own affairs. This is accomplished by suitable rules for the nomination of candidates for office, by frequent elections, and by enabling policyholders to get in touch with one another.

In considering the relative merits of stock and mutual control, it is important to remember that a very large proportion of the accumulated funds of a well-established life insurance company, whether stock or mutual, has been contributed by the policyholders and that most of these funds, such as the policy reserves, are, *in equity*, the property of the policyholders. The capital stock, if any, is comparatively small in amount. It would therefore appear reasonable that the policyholders should have some voice in the management.

It may be argued that much the same state of affairs exists in the case of a bank since the greater part of a bank's assets belong, not to the stockholders of the bank, but to the depositors. The situation, however, is quite different. A depositor in a bank can at any time draw out the entire amount he has deposited and transfer it without loss to some other institution, but a policyholder in an insurance company may not be able to withdraw except at a loss and can replace his insurance in another company only if he is in good health.

Cost. The third point of comparison, and the one which is of most interest from the policyholder's point of view, is the relative cost of life insurance in stock and mutual companies. Stock companies issue chiefly—some of them, entirely—nonparticipating policies. Mutual companies issue, for the most part, participating policies at premium rates higher than those of the stock companies but carrying the right to *dividends*, or participation in surplus earnings, which may or may not result in a lower “net

cost" than in the stock company. In this respect holders of participating policies issued by stock companies are in the same position as the policyholders of mutual companies, so that, so far as cost is concerned, the comparison is between *participating* and *nonparticipating* insurance rather than between *mutual* and *stock* companies.

The advantages offered to the nonparticipating policyholder are (1) a guaranteed fixed annual cost and (2) a low immediate outlay as compared with the premium payable for a participating policy. Premiums for nonparticipating policies must be as low as they can safely be made, since there are no subsequent adjustments or "refunds." The premium rate must, however, for the sake of safety, be at least slightly in excess of anticipated requirements. No company can afford to charge less than the expected actual cost; and since there must be some margin of safety and for a profit to the stockholders, somewhat more than the anticipated cost must be charged. The premiums of mutual companies, on the other hand, are admittedly greater than necessary. Refunds are made, usually annually, of such portion of the premium as is not required, together with other profits, if any, so that it is not necessary that the contract premium be calculated with exactness. In spite of the attractions of a guaranteed low premium there are compensating advantages, both to the policyholder and the company, in premiums higher than necessary, the chief of which is the added margin of safety. The actual cost of insurance to the policyholder in a mutual company is measured, not by the premium charged, but by the premium less the dividend, or "refund," the difference between the premium and the dividend being generally referred to as the *net cost*. These refunds, or dividends, should theoretically, at least, result over a period of years in a lower net cost for the participating policyholder, conditions being equal.

The much debated question of comparative cost is usually argued by comparing companies instead of systems. It is quite true that a particular stock company may be able, through efficient administration, economy, and skillful or fortunate investment, to provide insurance at a cost which will prove lower in

the long run than in a mutual company. This is possible, but there is, in general, no reason to suppose that a stock company will be managed better than a mutual company. Unless a continued trend toward higher cost develops because of rising mortality or expense or falling interest rates, insurance on the mutual plan should be cheaper than corresponding nonparticipating insurance in two equally well-managed companies.

However, neither equality nor stability of conditions exists, so that the comparison of probable cost is more complex than may at first appear. Thus, as an illustration of unequal conditions, the rates of commission on nonparticipating insurance—at least for the principal plans—are sometimes less, plan for plan, than those of mutual companies, and these lower rates are paid on smaller premiums. Out of each \$100 of premiums a smaller amount in dollars and cents is therefore used for that purpose in the stock company than in the mutual company. Because of the lower premiums charged it would appear that the stock company pays relatively less in state premium taxes than the mutual company; but since in most states premium taxes are charged on premiums *less* dividends and not on gross premiums, there is not much difference in this respect. A more important point is that the system of collecting larger premiums than are necessary and making annual refunds to every policyholder is a more expensive one to operate than where such complicated calculations and refunds are eliminated.

The amounts paid to stockholders as dividends are usually comparatively small in relation to the premium income of the company and in most cases have very little effect on the relative cost of insurance. Some persons undoubtedly prefer to pay a fixed premium of low amount rather than the fluctuating net costs of mutual companies, even if these should eventually prove to be less. Reductions in dividends on participating policies consequent upon the reduced interest rates in recent years have in many cases resulted in net costs under participating policies which are higher than the nonparticipating rates for similar policies issued at the same time. Nonparticipating rates have been substantially increased during the past 20 years; but, of course, no

increase can be made in the premium rates of policies already issued.

Further Comparison of Stock and Mutual Companies. The policyholder in a stock company need not concern himself with the operation of the company so long as he is satisfied that it is in a sound financial condition and is being honestly managed, whereas the policyholder in a mutual company has at all times a vital interest in the details of operation because of the effect which the character and quality of the management can have on the amount of his dividends. For example, the rate of interest obtained by the company on its investments, the amount of expense incurred, the carefulness with which the company selects its business, and many other things all affect the cost of his insurance.

On the other hand, the additional income from higher premium rates in a mutual company is a source of strength. There is a greater margin of safety available to meet losses or unforeseen contingencies. Insurance companies must be ready for the unexpected—which sometimes happens. Thus the influenza epidemic of 1918 increased the rate of death claims of many companies by from 50 to 100 per cent. In many of the small companies whose policyholders were mostly young persons, the death claims were doubled. The financial collapse of 1929 followed by depression and the reduction of interest rates to a point which many would have considered virtually impossible is another illustration of the need for safety margins and the maintenance of substantial contingency funds, which must be provided out of premiums and interest earnings. It is, of course, not suggested that stock companies generally are not in a position to meet such adverse possibilities. This is by no means the case; but a mutual company with its larger premiums is, *other things being equal*, in a stronger position in that respect. In the event of a continuation of adverse conditions the stock company can increase its premium rates for new policies, but it cannot increase those of policies already in force. The mutual company can adjust the cost on all its policies.

Mutualization of Stock Companies. Many companies, including some of the largest, which were originally organized as stock companies have been "mutualized" through the purchase by the policyholders of the capital stock. The funds required for such a purchase are taken from the general surplus funds of the company when these are sufficient to provide the price acceptable to the stockholders and to leave an adequate contingency fund for the protection of the policyholders. Payments to the stockholders may be spread over a period of years.

Where, as has often been the case, a stock company has issued most of its policies on a participating basis and where, therefore, a very large proportion of its surplus funds has been derived from the premium margins on participating business, the company is essentially a mutual company. Nearly all of its assets, including policy reserves and surplus funds, are "policyholders' money," having been derived from policyholders rather than stockholders, and are required either to meet policy liabilities (reserves) or for the protection of policyholders (surplus). In these circumstances, the amount of capital stock, although originally important when the company was formed, and in its earlier years, is usually no longer significant in comparison with the company's total surplus or total liabilities; and it is reasonable that the policyholders should, if possible, take over the ownership and control of the company.

In the case of the larger companies, mutualization has usually been decided upon for the reasons just indicated. In the case of small or, sometimes, medium-sized companies, another reason for mutualizing has sometimes been to prevent control of the company from falling into undesirable hands through a transfer of stock ownership.

The initiative in instituting proceedings for mutualizing a stock company will normally be taken by the officers of the company, who submit a plan to the board of directors. The important point is, of course, the price to be paid for each share of stock. From the policyholders' point of view the price must necessarily be limited by the amount of surplus which can be used for this purpose; *i.e.*, the total price must not be so great

as to leave the company, after mutualization, with an inadequate surplus or contingency fund. The stockholders, on the other hand, will naturally require a fair price in relation to the dividends which they might expect to receive, and with due consideration of the value of their rights of ownership and control and the amount of the surplus funds which have been derived from nonparticipating business.

When the board of directors has approved the plan and has determined the price to be offered to the stockholders, the plan will be submitted to the state insurance department for the approval of the Commissioner or Superintendent of Insurance. If approved by him it will then be submitted to the policyholders and stockholders in accordance with the requirements of the state insurance law.

If the necessary majorities of policyholders and stockholders agree on the terms of purchase, the company will then proceed to take up the stock. This may, and usually does, require some time, since, usually, some of the stockholders object to the plan for one reason or another, or hold out for a higher price than the one agreed upon. This may involve litigation and delay. In the meantime the stock which has been purchased is not canceled but is transferred to trustees for the policyholders, who vote the stock on their behalf. Usually the stock which can be purchased and transferred to the trustees immediately following the action by policyholders and stockholders is a substantial majority of the total stock so that effective ownership and control are obtained by the policyholders. When all the shares of stock have been transferred to the trustees the stock is canceled and the company thereupon becomes a mutual company.

CHAPTER III

TYPES OF LIFE-INSURANCE AND ANNUITY CONTRACTS

The many different kinds of life-insurance and annuity contracts issued by life insurance companies may be broadly classified into three groups.

- (A) Standard forms of life-insurance policies issued, generally speaking, by all companies.
- (B) Standard forms of annuity contracts issued by all or most companies.
- (C) Miscellaneous special forms of life-insurance or annuity contracts and combinations of life insurance and annuities not issued by all companies.

In this connection the word "standard" is used not in the legal sense implying identity of all contract provisions, but as indicating an established type of contract.

(A) STANDARD FORMS OF LIFE-INSURANCE CONTRACTS

The principal forms of life-insurance contracts may likewise be broadly classified under three headings.

- (1) Whole-life policies.
- (2) Endowment policies.
- (3) Term policies.

Whole-life Policies. *Whole-life* policies provide insurance for the whole of life and (if not previously terminated) mature for payment only at the death of the person insured. They include *ordinary-life*, *limited-payment life*, *single-premium life*, and *joint-life* policies.

Ordinary Life. The distinguishing feature of the ordinary-life policy is that premiums are payable throughout the entire lifetime of the person insured. In some companies the ordinary-life policy has been replaced by a very long-term limited-payment life policy or endowment, such as "Life premiums to 85" or "Endowment at 85." Except when issued at very high ages such a policy is almost equivalent to an ordinary-life policy. Sometimes this is done because the company also issues a "special" ordinary-life policy (such as a "Preferred-risk" or "Minimum-amount" policy, as explained later), and a different form is used in order to avoid having two ordinary-life policies at different premium rates.

Another and more general reason is that the practical advantage of eliminating the necessity for continuing payment of premiums in extreme old age is thus obtained at only a slight additional cost (except where the age at issue is high—say sixty or over). For all practical purposes, policies under which payment of premiums is limited to a very high age, such as eighty-five, may be regarded as the equivalent of ordinary-life policies.

Where insurance is required for an indefinite period, the ordinary-life policy is usually the most suitable contract. Its cost is low, and in view of the provisions which it invariably contains it is particularly adaptable to changing circumstances or to various special requirements. In fact, in view of the provisions for cash and other surrender values, for change to other plans of insurance as from original date, for application of dividend accumulations in commutation of future premium payments or to mature the policy as an endowment, and for optional modes of settlement, it might be said that where the insurance need is more than temporary and where the applicant can afford to pay the ordinary-life premium rate, this form will satisfy almost any requirements for life insurance. It is sometimes argued that few persons require life-insurance protection in extreme old age and that for that reason an ordinary-life policy is not the most suitable type for the average person. It is true that the need for insurance frequently ceases at sixty-five or seventy, but in that case the policy may be surrendered without loss, usually for its

full reserve value, and the proceeds may then be converted into income or applied in some other manner. In those cases where insurance protection is required in old age it is still available under the ordinary-life form.

Limited-payment Life. The limited-payment-life policy provides for premium payments only during a specified number of years (or until prior death). The amount of insurance is payable as in the case of the ordinary-life policy at the death of the person insured. Formerly limited-payment-life policies were usually issued only with provision for a specified *number* of premiums, such as 10, 15, 20, 25, or 30. More recently policies providing for payment of premiums up to a specified *age* such as sixty, sixty-five, or seventy have also become common. Companies are usually willing to issue limited-payment policies calling for any desired number of premiums. The greater the number of premiums payable, the more closely the contract approaches the ordinary-life form.

Cash and other surrender values on limited-payment policies are greater than under the ordinary-life form (since premium rates are higher), and the effective insurance protection involved is therefore correspondingly smaller. In other words, the investment portion of the contract is increased and the insurance portion decreased. Death may occur within a period in which the amount of the insured's premium payments under a limited-payment policy has exceeded the amount of those which would have been made on an ordinary-life policy, but the comparatively long-lived policyholder may pay a great deal less on the limited-payment plan. At the time of issue the value of the limited premiums is the same as the value of the premiums for life under the ordinary-life contract. Both policies are sold on the same *price* basis—although involving different net effective amounts of insurance protection—and whether one will prove to be “cheaper” than the other in any individual case will depend on the time elapsed before death occurs. In event of surrender each policyholder receives a surrender value which takes into account the cost of the net insurance protection actually furnished. There is thus no presumptive *financial* advantage as between one form and the

other. Choice depends on circumstances and personal preference. Some persons prefer the limited-payment form because there is a definite date for the termination of the premiums, while others prefer the ordinary-life form because it gives the maximum permanent protection for a given annual outlay.

Single-premium Life. A single-premium life policy is simply a special case of a limited-payment policy, the number of premiums being limited to one. The effective insurance protection is, of course, substantially less than the face amount of the policy and the investment element correspondingly great. Such contracts are therefore purchased largely for investment purposes. Considered as an investment, a single-premium policy offers the advantages of a high degree of security, a satisfactory interest yield, and ready convertibility into cash on a basis guaranteed by the company for the whole duration of the policy.

Joint Life. Joint-life policies provide for payment of the face amount of insurance at the *first* death of two or more persons insured. A policy payable at the *last* death of the lives insured would be called a *last-survivor* policy. Last-survivor policies are rarely, if ever, issued, while joint-life policies are quite common. Two, three, or even four lives may be covered by a joint policy; but, because of practical difficulties and expense, few companies are willing to issue joint policies which cover more than four lives—in fact, many companies do not go beyond two or three. Joint-life policies may be issued on the ordinary-life plan with premiums payable until the first death or on the limited-payment plan or on the endowment plan. They are practically never issued on the term plan because separate term policies on each life for the same amount would (except for long terms) cost very little more than a joint policy and would therefore be preferred since the insurance could be continued on the survivor after the first death.

Most joint policies are taken as business insurance, as on the lives of partners. It is doubtful whether they are suitable in the majority of cases for such purposes. Partnerships change, and it may be difficult or impossible to make satisfactory adjustments in the insurance coverage where it consists of a joint-life policy.

The insurance ceases at the death of the first partner, and frequently new insurance arrangements would then be necessary. For these reasons it is usually better to take separate policies on each partner, division of the total premium cost being made on an equitable basis. Such an arrangement will usually be more satisfactory, particularly where the interests of the partners are of different amounts.

Joint-life policies are sometimes taken on the lives of husband and wife and, where a legitimate need for insurance exists, are suitable in such cases. The fact that two or more lives are covered under the same policy means that the "cost of insurance" is relatively high and the relation of cash values to premiums paid correspondingly low. Misunderstanding or dissatisfaction is therefore more likely under a joint policy than under separate single-life policies. The practical value of joint-life insurance must be regarded as limited.

"Special" Whole-life Policies. Some companies issue "special policies," usually on the ordinary-life plan, under which the premium rate is lower than on the regular forms. A lower premium and cost may be justified by (1) limiting the issue of the special policy to a specified *minimum amount*; (2) limiting its issue to *preferred risks*, i.e., to groups which because of more rigorous "selection" rules will experience a lower mortality rate than that among insured lives generally; or (3) limiting issue in both these respects.

A class of policies in which the minimum amount issued is, say, \$5,000, will have an average policy of perhaps double that of the regular classes in which the minimum may be \$1,000 or even lower. The rate of expense *per* \$1,000 will therefore be much lower for the special-policy class since many items of expense (such as cost of medical examination, accounting, and general overhead) are not affected by the *amount* of the policy while, because of the lower premium rate, such expenses as commissions and premium taxes will be less *per* \$1,000 of *insurance*.

Preferred-risk policies are nearly always issued on a "minimum-amount" basis and so involve the expense savings referred to above. In addition there is a reduction in the cost of insur-

ance, the extent of which will depend on the selection rules, *i.e.*, on the classes of applicants to whom preferred-risk policies will be issued.

These special policies, whether on a minimum-amount or preferred-risk basis, or both, have been adopted largely as a competitive measure. It is obvious, however, that where the larger policies or the superior risks are put in a separate class with a lower cost of insurance, the result must be that the cost of insurance will be increased for those with smaller policies or who cannot qualify as preferred risks. Theoretically that is as it should be, but from a practical standpoint it would be impossible, and perhaps even undesirable, to carry these principles to their logical conclusion. The reasons which justify a lower cost per \$1,000 for a policy of \$5,000 than for one of \$2,000 would equally lead to a still lower cost for a policy of \$10,000, and so on. In fact, the logical conclusion is that premium rates per \$1,000 should decrease as the amount of insurance increases. This would tremendously complicate the operation of the business and would, in fact, be impracticable. The issue of special policies at lower rates where the amount is \$5,000 or over is merely a partial recognition of the relatively lower expenses on large policies.

With regard to preferred-risk policies it is clear that, if the principle of granting insurance at lower premium rates to "super-select" risks is adopted, it should logically be applied not merely to one kind of policy but to all kinds. The same is true as to "minimum-amount" policies. This, however, would be more or less impracticable and, as a rule, the "minimum-amount" or preferred-risk policy is issued on only one plan of insurance.

The use of these two types of special policies appears to be increasing and to be becoming more and more a standard practice. In view of the practical limitations and since the majority of all policies issued are for relatively small amounts and are on the lives of average rather than preferred risks, there is at least a question whether this practice is altogether desirable. The successful operation of the insurance business is based on averages. To get average results insurance of large groups is

essential, which requires, from a practical standpoint, inclusion, in the same group, of persons whose prospects of longevity vary rather widely (such as clergymen and factory workers) or who are insured for different amounts.

Endowment Policies. An endowment policy provides for payment of the amount of the insurance either in the event of death during a specified period (the *endowment period*) or upon survival to the end of that period (the *maturity date*). Endowment policies are usually issued with premiums payable during the whole of the endowment period. They are also issued on the limited-payment or single-premium plan and on joint lives, the policy being payable, in the latter case, at the first death if that should occur prior to the maturity date.

Where the age at the maturity date is very high, an endowment policy approximates an ordinary-life or limited-payment-life policy. Thus, where the C.S.O. Mortality Table is used, an ordinary-life policy is an "endowment at age 100" (since, according to that table, no one lives beyond age 100). Endowment policies with such a high maturity age as eighty, or eighty-five may, as already indicated, be considered for most practical purposes as in the same class as whole-life policies.

Other endowment policies may be divided roughly into (1) those which have relatively long endowment periods and which mature at a specified age, such as fifty-five, sixty, or sixty-five; and (2) those which have short endowment periods and which mature at the end of a specified number of years, such as 10, 15, or 20.

Policies in the first of these two classes are generally taken to combine insurance protection during the working years of life with provision for old age. The shorter-term endowment policies are more likely to be taken for their investment features or for some special purpose such as to provide for repayment of a mortgage loan.

In the case of endowment insurance there is a greater element of investment and correspondingly less insurance protection than under whole-life forms of insurance. Where the endowment period is short the actual insurance involved is small in relation

to the face amount. In considering any form of insurance from an investment point of view it is necessary to take into account the fact that part of the premium is paid for insurance protection. That part is spent, not invested; it is only the balance of the premium which is invested and which should be considered in determining the yield involved.

A fallacy which is frequently met with is to calculate the "investment yield" of an endowment policy by assuming that the investment element of the premium is the difference between the endowment premium and the premium for a term policy covering the same number of years. This overlooks the differences in the actual insurance protection under the two contracts. Because of the increasing reserve held, on the level-premium plan, for the endowment policy, the "amount at risk" or net amount of insurance is a diminishing amount, averaging about half the face amount, so that much less than the regular term premium is needed to pay for the actual insurance involved. This erroneous method of calculation results, therefore, in interest yields which are higher than the true yields.

The proper method of calculating the investment yield of an endowment policy would be to deduct from each premium the cost of carrying the insurance risk of that year—the insurance risk decreasing each year—and, by trial, to ascertain at what rate of interest the remainders will accumulate to the face amount of the policy at the maturity date.

This would be a complicated calculation and one which it is quite unnecessary to perform, since—in mutual companies at least—the result should be approximately the average net rate at which the funds of the company are invested.

Life-insurance policies satisfy nearly every requirement of a good investment, including a fair yield. It must be realized, however, that a part of the premium on any kind of policy—the part depending on the kind of policy—is *spent*, not invested.

Sometimes it is claimed that the insured could invest his money at a higher rate of interest than the company earns and that it would therefore be to his advantage to carry only term insurance and do his investing himself. In order to make a fair comparison

on this basis it must be assumed that the amount of term insurance carried decreases each year, so that the total sum—insurance plus investment—available in event of death is always the same. If this is not done, the comparison is vitiated, since different amounts of insurance are involved. It can usually be shown that the separate investment fund in these circumstances must yield a rate of interest materially higher than that earned by the company in order to make the two propositions equal financially. This is because part of the expense of an insurance policy is incurred irrespective of amount or plan, so that term insurance involves a higher rate of expense than endowment insurance. The argument also assumes an equal degree of security which is not likely to be the case.¹

Term Policies. A term policy is one under which the sum insured becomes payable provided that the person insured dies within a stated period. This period may be 1 or more years and is generally 5, 10, 15, or 20 years. Policies for longer terms, such as to age sixty-five, are issued by some companies.

A term policy provides temporary protection at a low premium. It covers a contingency only and not a certainty, as do other kinds of policies. The "cheapness" of term insurance arises from the fact that the period of old age, when death is most likely to occur and when the cost of insurance is high, is not covered.

In the earliest days of life insurance, term policies were the only ones issued. The first of which we have any record covered a period of a few months or a year. They were taken out by persons about to make a journey or engage in some hazardous enterprise. The rate of premium charged for these early term policies was nearly always the same, \$5 for each \$100 of insurance, a very high rate. It is to be remembered, however, that the nature of the risk was then quite different. Very little evidence as to the health of the applicant was required, while the

¹ This subject is discussed in an article on "Life Insurance as an Investment" by M. A. Linton, published by The National Association of Life Underwriters, New York, 1927, and later by the Provident Mutual Life Insurance Company of Philadelphia.

insurance was usually taken to cover a more than usually hazardous risk and not merely the ordinary chances of death. In the early years of the nineteenth century, when life insurance was first furnished by corporations, term insurance still formed by far the largest part of the life business of such companies. Even during the early years of some of the older companies operating at the present time, term insurance still formed an important part of the total business. No doubt this is partly explained by the fact that life insurance was then little known or understood and that many of the policies taken were for business purposes where protection was required for a temporary period only. Life insurance for family protection was in its infancy. With the development and extension of permanent forms of life insurance, term insurance now constitutes a relatively small part of the total insurance written, and nearly all of it is written on a convertible or renewable basis.

Convertible Term Insurance. The field for term insurance has been greatly enlarged by the inclusion in the term contract of a provision for conversion to a permanent plan.² Practically all term policies now carry the right to exchange the term contract, within a specified period, for permanent insurance, irrespective of the then state of health of the insured. Such a contract meets the needs of those who, while at present unable to pay the larger premium rates required for whole-life or endowment policies, expect or hope to be able to pay for such policies in the future. Convertible term policies are also useful when it is desired to leave the final decision as to plan until a later time when it may, for some reason, be possible to make a better choice.

Conversion may usually be made either as of the date of conversion or as of the original date of the term policy. In the former case (conversion as of current date) the premium rate is that for the then attained age, and the form of policy is the one currently being issued. In the latter case (conversion as of original date), adjustment on account of differences in past pre-

² In this connection, the expressions "permanent plan" and "permanent insurance" refer to whole-life or endowment insurance as distinguished from term (*i.e., temporary*) insurance.

miums and interest thereon would be required, and the form of policy would usually be that in use at the date of the term policy.

In either case some limitation as to the time within which conversion may be made is desirable in order to prevent adverse selection by policyholders who are in bad health at or near the end of the term period. The following is a typical clause providing for conversion of a 10-year term policy:

Privilege of Change to Ordinary Life, Limited Payment Life, or Endowment Policy. Provided this Policy is in force and no premium is in default, this Policy may be exchanged, without medical reexamination, at any time within 7 years after its date of issue and within the limits of age hereinafter stated, either as of its original date or as of the date of exchange as hereinafter set forth, for a premium-paying policy of the same face amount, upon either the Ordinary Life, the Limited Payment Life, or the Endowment plan. A written request signed by the Insured and beneficiary or assignee, if any, and the legal surrender of the Policy to the Company at its Home Office, will be required.

(1) *If the exchange be made as of the original date of this Policy.* there must be paid to the Company a sum equal to either (a) the differences between the premiums paid hereon and the premiums which would have been paid upon the Policy had it originally been issued on the new plan, with interest upon such differences from the various due dates to the date of exchange at a rate of interest not exceeding 6 per centum per annum compounded annually, allowance being made for any larger dividends on the new plan; or (b) the cash surrender value guaranteed in such a new Policy at the date of exchange if such cash value be greater than said differences with interest as provided in (a). The new policy shall bear the same date and number and shall be written as of the same age of the Insured as this Policy, and shall be at the rate of premium in force for such new plan at the date of this Policy, but such exchange cannot be made if the attained age of the Insured exceeds fifty-five years³

(2) *If the exchange be made as of the date of exchange,* the New Policy shall be issued as of the age of the Insured upon the birthday nearest the date of such exchange, the premium rate being the rate for such age according to the rate of the Company then in force, but such

³ This limitation is necessary since, in certain cases, the charge provided for would be insufficient to equal the increase in liability (reserve) under the new policy. Special terms would be made for a change in such cases.

exchange cannot be made if the attained age of the Insured exceeds sixty-five years.

Where conversion is made as of current date, a *conversion value*, based on the reserve held against the term policy, may be allowed toward payment of the premium on the new policy. This would usually be of small amount, since there is relatively little investment element or reserve in term insurance.

Automatic Conversion. A form of term insurance issued by some companies provides for automatic conversion at the end of the term to a specified plan of permanent insurance. Under such a contract the company is not protected against adverse selection arising from the option to continue or discontinue the insurance at the end of the period of term insurance. Policyholders in poor health at the end of the term period are more likely to continue the insurance and pay the higher rate of premium for the permanent plan of insurance than those who are in good health. The rate of mortality among those who elect to continue on the permanent plan is therefore likely to be substantially higher than among the whole body of policyholders.

Even under the more usual type of convertible term insurance, where the right to convert must be exercised several years before the end of the term period, there is considerable adverse selection. Experience shows that the death rate among those who convert is higher than normal. It is recognized, therefore, that premium rates for convertible term insurance should be higher than where there is no conversion privilege, in order to provide for the additional mortality cost of converted insurance.

Renewable Term Insurance. Renewable-term policies contain an option to renew for a limited number of further periods of term insurance, usually of the same length. Renewable-term policies may also be convertible to permanent plans as described above. The following is a typical renewal provision:

Renewal Privilege. The Insured may renew this policy for further periods of 10 years each without medical examination, provided there has been no lapse in the payment of premiums, by written notice to the company at its home office before the expiration of any period of

the insurance hereunder and by the payment in each year, on the dates above specified, of the premium for the age attained by the insured at the beginning of any such renewal period in accordance with the table of rates on the fourth page hereof.

A special case of renewable term insurance is the 1-year renewable policy, which provides for 1-year term insurance, renewable yearly, at increasing rates, up to age sixty or sixty-five, or for a specified period, after which the policy terminates or may be converted to a permanent plan of insurance at a level premium. Such a policy corresponds closely to true assessment insurance, but the age limitation mitigates or eliminates the dangers of that system.

Renewable term insurance, although strongly advocated for almost all insurance needs in certain quarters and by ill-informed advisers, has serious drawbacks both to the insured and to the company. The reason for the apparent cheapness of term insurance has already been stated. Under the renewable-term plan the premium increases either annually or at longer intervals; and while the premium remains low as long as the age is low, it increases very substantially if the policy is continued in force beyond middle age. It is for this reason that renewable-term contracts are limited as to the number of renewals which may be effected. Where insurance is required for the whole of life, term insurance should be taken only where there is a likelihood of conversion within a comparatively short period and before the cost becomes excessive.

From the company's point of view renewable term insurance offers serious problems. Whether the policy is on the yearly-renewable-term plan or provides for a longer term and renewal at longer intervals at successively increasing premiums, there is likely to be a strong selection exercised against the company at the time of renewal, and this selection will be increasingly great as the age and the renewal premium increase. The temptation to drop a policy which calls for increasingly greater premiums will cause many of those who remain in good health to fail to renew at the time a premium increase takes effect, while those

who are in poor health will be more likely to take advantage of the right of renewal, with the result that as time goes on the mortality experience among the surviving policyholders will be increasingly unfavorable. Adverse mortality experience from this cause can be provided for, to some extent, by adjustments in dividends if the policy is on a participating basis, but the policyholder must pay a relatively higher cost as compared with other forms of insurance. Where renewal is permitted to a high age, such as sixty-five, adverse selection may become serious, particularly on the yearly-renewable-term plan, and the company may be unable to avoid loss. This was illustrated by the history of the Provident Savings Society of New York, a company organized in 1875 to sell insurance exclusively on the yearly-renewable-term plan. For about 25 years the company was able to operate successfully, but by the end of that time the mortality experience had become so unfavorable through adverse selection on renewal that it was necessary to change the plan of operation. A few years later the company went out of business.

The fact is that renewable term insurance can be satisfactory, for ordinary individual insurance, both to the policyholder and the company, only when limited to a total period which does not extend to the higher attained ages. So limited, renewable term insurance has a definite value. Very few companies now offer renewable term insurance except on a strictly limited basis as to time and age.

There appears to be some misunderstanding as to the attitude of life insurance companies in regard to the desirability, from their point of view, of term insurance. It is sometimes stated that the companies are opposed to term insurance, preferring to write insurance on higher-premium forms which add more to income and assets. This is not the case. Most companies offer a wide variety of term policies and issue a substantial amount of insurance on term plans. The attitude of the companies is that term insurance is suitable either (1) where the need for protection is purely temporary, which is often the case, or (2) where the applicant cannot immediately afford the necessary amount of insurance on a permanent plan and is therefore com-

pelled to use the cheaper term basis as a temporary measure, with the object of later conversion. The companies do not believe that term insurance is suitable for all purposes or that it can be used as a substitute for permanent insurance protection.

There is also considerable misunderstanding in regard to the "cheapness" of term insurance as compared with whole-life or endowment insurance. Differences in premiums are due to the differences in benefits. In fact, the "cheaper" policy, *i.e.*, the policy with the lower premium, may be and usually is the more expensive because of the relatively higher rate of expense involved in low-premium insurance.

(B) STANDARD FORMS OF ANNUITY CONTRACTS

The principal forms of annuity contracts may be classified in two groups: (1) *immediate annuities*; (2) *deferred annuities*.

Immediate Annuities. The word "annuity," strictly speaking, means an *annual* payment. An annuity has been defined as "a periodical payment to continue during a given status." The "status" may be, and usually is, the duration of a single life, in which case the annuity is called a *life annuity* or, more correctly, a *single-life annuity*. The person during whose life the annuity is paid, and who is usually, but not always, the purchaser, is called the *annuitant*. If the status is the duration of two or more lives, the annuity is called a *joint-and-survivor annuity*. This type of annuity is frequently referred to incorrectly as a *joint annuity*. A joint annuity is one which ceases upon the occurrence of the *first* death among the lives involved—not the last, as is the case in a joint-and-survivor annuity. Joint annuities are very rarely issued, but joint-and-survivor annuities are common. From the insurance company's point of view the premium on a joint-life-insurance policy constitutes a joint annuity since it ceases on the first death of the persons insured.

All these annuities are classed as *immediate*; *i.e.*, if they are payable annually, the first payment is made 1 year after the date of purchase, the annuity being "entered on" immediately. If the annuity is payable semiannually, quarterly, or monthly, the first payment is made in 6 months, 3 months, or 1 month,

respectively, after purchase. The cost of an annuity is greater the more frequently it is payable, since the loss to the annuitant in the year of death is diminished and also because of expense and loss of interest to the company granting the annuity. Thus, for example, the right to receive \$50 each 6 months, the first payment to be made in 6 months from purchase and the last payment being that immediately preceding death (the usual terms for an ordinary immediate life annuity), is more valuable than the right to receive \$100 each year, the first payment in 1 year. The holder of the former annuity gains 6 months' interest on \$50 each year and will also receive an additional payment of \$50 if his death should occur in the second rather than the first half of the (policy) year.

Occasionally, but not usually, annuities are made "apportionable," i.e., with provision for a prorata fractional payment covering the period from the date of the last regular payment to the date of death. This, of course, would necessitate an increase of the purchase price or "premium," since premiums for the usual type of annuities (nonapportionable) are calculated on the assumption that there is no such prorata payment. The extra cost would be the value of an *insurance* of one-half the periodical payment, payable at death, since, on the average, death will occur halfway between two annuity payment dates.

Refund and Cash-refund Annuities. The fact that, in the case of the regular immediate life annuity, payments cease at the death of the annuitant, no matter how soon after purchase that may occur, is sometimes regarded as an objection to that form of contract. In order to avoid the possibility of serious loss to the estate of the annuitant through early death, many companies issue *refund* and *cash-refund* annuities or annuities under which payments are guaranteed for a specified minimum period, such as 10 years. Under the refund annuity the company undertakes, if the death of the annuitant occurs before payments totaling the purchase price have been made, to *continue* payment of the annuity provided for until total payments equal to the purchase price have been made, the contract stating to whom any payments which may thus be due after the death of the annuitant

shall be made. The cash-refund annuity provides that, if the death of the annuitant occurs before payments totaling the purchase price have been made, the excess of the premium paid by the purchaser over the total annuity payments made by the company will be paid immediately in cash. Naturally, these forms of annuity are more expensive (*i.e.*, give a lower *yield* on the purchase price) than the ordinary life annuity. The additional benefit must be paid for and therefore affects the annual yield of the annuity during the annuitant's lifetime. The table below illustrates the approximate differences in yield under these different forms of annuities. Actual figures of annuities purchasable by \$1,000 vary among different companies.

COMPARISON OF RELATIVE YIELDS PER \$1,000 UNDER DIFFERENT TYPES OF IMMEDIATE ANNUITIES

Age	Type of annuity		
	Regular	Refund	Cash-refund
Male:			
50	\$49.96	\$43.30	\$42.12
60	66.13	52.52	50.18
70	94.89	66.24	61.36
Female:			
50	44.53	39.84	38.99
60	56.96	47.47	45.81
70	78.33	58.69	55.34

Since the object of purchasing an annuity usually is to obtain the highest possible income from one's capital, it would appear that guarantee provisions such as those described tend to defeat the purpose of annuities. Nevertheless, there seems to be an increasing tendency toward the purchase of refund or other "guaranteed" annuities rather than regular annuities. The average purchaser evidently considers that he is getting a better bargain

when he is sure that the company will pay back *at least* the amount paid in, and he is willing to accept a lower income—and at the higher ages a substantially lower income—in order to secure that guarantee.

It will be noted that the premium rates for (or yields on) annuities depend not only on age but on sex. On the average, women live longer than men. In the case of life insurance, this fact is not taken into account, partly because women are usually only a rather small minority of all those insured, partly because the difference in mortality is not very great and is offset to some extent by higher expense arising from the smaller average policy on women, and also because of the serious additional expenses which would be involved in making such a distinction. In the case of annuities, women are in the majority. The rates of mortality experienced among women annuitants are substantially below those among male annuitants. It is therefore essential to charge higher premiums for women than for men.

Joint-and-survivor Annuities. Joint-and-survivor annuities are payable until the death of the last survivor of two or more persons. Usually the amount of the annuity is the same during the entire currency of the contract. In many cases a better arrangement would provide for a larger income while both (or all) annuitants are alive, and a smaller income thereafter. Such an arrangement may be obtained by purchasing a combination of annuities as in the following example:

On the basis of the rates at present in use by one company a husband and wife aged, respectively, sixty-five and sixty could purchase a joint-and-survivor annuity of \$100 per month for a premium of \$24,980. The same total amount could be applied in the purchase of *three* annuities, each for \$39.22 monthly, *viz.*: (1) an immediate life annuity to the husband; (2) a similar annuity to the wife; (3) a joint-and-survivor annuity. Under this arrangement, the income while both were living would be \$117.66 monthly instead of \$100, while after the first death the survivor would have an income of \$78.44 monthly.

Variations may be made along similar lines which will provide a greater or smaller reduction in income to the survivor. Some

companies publish rates for such combinations with reduction to one-half or two-thirds of the original income, and frequently such a contract is preferable to the "straight" joint-and-survivor annuity.

Temporary Annuities. An immediate annuity which is to continue only until a specified number of payments have been made or until prior death of the annuitant is called a *temporary life annuity*. Comparatively few of these are issued.

Deferred Annuities. A *deferred annuity* is not entered upon immediately but commences after a stated period of years. Deferred annuities may be purchased either by single premium or by annual premiums payable during the whole or part of the period of deferment. In the simplest form of deferred annuity, nothing whatever is payable by the company if the annuitant dies before the date upon which the first payment of the annuity is due. This fact, of course, enters into the calculation of the premium, and the possibility of loss by death is compensated by a correspondingly low rate of premium, the premiums being just sufficient to provide the annuity payments to those who survive. There is no "forfeiture," since the purchaser receives exactly what he pays for; but the popular distaste even for an *apparent* forfeiture renders such simple deferred annuities unattractive to most purchasers, and very few of them are issued.

Deferred annuities are sometimes issued on more than one life. These *deferred joint-and-survivor annuities* are entered on at the end of the deferred period if *either* annuitant is living and continue thereafter until the death of the last survivor.

An annuity which is to begin at the death of one person, A, and to continue thereafter during the remaining lifetime of another person, B—such as an annuity to be paid to a wife *after* the death of her husband—is called a *survivorship annuity*. If B (the wife) should die before A (the husband), the contract would terminate and no annuity payments would be made. Such a contract is really a form of life insurance. It would, in many cases, be a simple, sufficient, and inexpensive method of providing for a surviving dependent. Here again, however, the dislike of the possibility that no payments may ever be made (if the

"insured" should outlive the "annuitant") renders this type of contract unpopular.

Retirement Annuities. The unpopularity of the regular deferred annuity as a means of provision for old age has led to the development of a special type of deferred annuity known variously as *retirement annuity*, *pension annuity*, *income bond*, *retirement-income contract*, etc. The general basis of all such contracts is the accumulation at interest of the premiums paid, less expenses, and the application of the total accumulations at the selected retirement age to the purchase on a specified basis of an annuity beginning at that time. Such contracts provide for payment of a guaranteed cash-surrender value at any time prior to the retirement age, including a *cash option* at the time the annuity is to begin, and also for payment of such cash value in event of death before the annuity begins. In some cases the payment in event of death is the cash value or the total amount of premiums paid if more, the latter being greater in the early years following issue.

Because of commissions and expenses the company could not afford to pay at any time a cash value equal to the total premiums paid plus the full amount of interest earned. In practice the cash values guaranteed are usually based on the accumulation of the *net* premiums at a low rate of interest, and the contract provides, in addition, for "dividends" which would consist chiefly of excess interest earned over the rate assumed. Usually these dividends may be left with the company to accumulate at a specified minimum rate of interest and upon maturity may be applied to increase the amount of the annuity, or the accumulations may be withdrawn in cash.

When the retirement age is reached, the policyholder usually has the option of selecting either the total cash value at that time (the cash option) or an annuity. In the latter case he may, as a rule, select one of several types of annuity such as regular life annuity, refund annuity (under which the company guarantees to make total payments at least equal to the cash option), or, sometimes, a life annuity with a guarantee of a stated number (such as 5 or 10) of years' *payments certain* whether he lives or

dies; sometimes also the right is given to select a joint-and-survivor annuity on his own life and that of the beneficiary, who would usually be husband or wife. The annual amounts of the different annuities which may be selected are such as can be purchased on the basis specified in the contract at the attained age by the amount of the accumulations, *i.e.*, the cash option.

In all cases the amount of income purchased under these special types of deferred annuity is less, and usually very much less, than could have been obtained for the same premium outlay under a regular deferred life annuity. That is because in the latter case the accumulated premiums of those who die before the retirement age are not paid out as a cash value or death benefit but are used to increase the annuities paid to those who survive.

In recent years retirement annuities have attained great popularity. From the purchaser's point of view they offer (1) a method of investing comparatively small sums at an effective interest rate which has generally been higher than that obtainable on deposits in savings banks or other comparable forms of investment; (2) the option to apply the accumulations in the purchase of an annuity at a rate which is not only guaranteed for the future but which (because of the absence of commission or expense in connection with the conversion) is lower than the regular price; and (3) as a result of these two features, a practicable plan for making provision for old age. In some cases the annuitant has the right to elect a change of the date at which the annuity is to commence, making it either earlier or later than that originally selected, with appropriate adjustments in its amount.

From the company's point of view these contracts involve some rather serious problems. A retirement annuity of the type we have been describing, including the cash-option feature, is, in effect, a contract to sell, at the buyer's option and at a future date (perhaps 40 or 50 years hence), an annuity on terms now guaranteed. The purchaser may exercise the option (at the maturity date) either to "buy" the annuity or to take a cash settlement as he sees fit.

In view of this possibility of adverse selection, the downward trend in mortality rates among annuitants, and the doubt as to the future course of the interest rate, it is evident that unless the premium rates (and cash options) for such contracts are on an extremely conservative basis, there is a distinct chance of loss to the company. The situation is quite different under life-insurance policies, where the trend in mortality is favorable to the company.

In addition, business of this kind is very largely of an investment character. Where a large volume of it has been issued, the company may be subjected to extensive withdrawals at an unfavorable time, as when interest rates are high.

These objections do not apply to "straight" deferred annuities with no cash values and no options at maturity.

Participating Annuities. Most life annuities—other than the special types of deferred annuities referred to above, which are usually on a participating basis—are nonparticipating, *i.e.*, do not provide for "dividends," even when issued by mutual companies. Owing to the fall in interest rates which has occurred in recent years and the general downward trend of annuitant mortality—both tending to result in loss on annuities—a few of the principal companies have placed their regular immediate annuities on a participating basis. This means that in premium calculations more conservative assumptions are made as to interest, mortality, and expense, with the result that the amount of the guaranteed annuity payments for any given purchase price is lower than when the annuity is on a nonparticipating basis. These lower guaranteed payments will, however, be supplemented by "dividends" arising from more favorable mortality experience, higher interest earnings, or lower expenses than those assumed.

From the purchaser's point of view there is both advantage and disadvantage in this arrangement. The advantage is that instead of having a fixed income determined by current conditions, he will secure the benefit of any improvement in interest earnings or in other respects (mortality rate and expenses). On the other hand, the guaranteed income will be definitely lower than it would be on a nonparticipating basis, and the actual in-

come, including dividends, will be uncertain. From the point of view of the company there is greater safety, since some provision is made for unfavorable experience.

The following table illustrates the difference in the amounts of immediate life annuities now (1951) obtainable on the participating and nonparticipating plans.

MALE LIVES—PURCHASE PRICE \$1,000

(Annual annuity)

Age at purchase	Nonparticipating basis, Company A	Participating basis	
		Company B	Company C
50	\$49.96	\$48.24	\$50.21
60	66.13	63.40	65.07
70	94.89	90.17	91.32

Under the conditions existing at present the dividends on the participating contract should increase the total income to about the same as the nonparticipating rate. If conditions in future should become less favorable, the total income would in general be less on the participating plan; if more favorable, it would be greater.

Annuities as an Investment. Each payment of an annuity is made up partly of principal and partly of interest. The terms upon which immediate life annuities can be granted are, nevertheless, not particularly attractive unless the age of the proposed annuitant is not less than about fifty. Usually, when annuities are purchased at lower ages, it is because there is some special reason for the purchase, as, for example, the purchase being required under the terms of a will.

The reasons why life insurance companies cannot offer more attractive terms for annuities at the lower ages are (1) that a conservative view both as to the interest rate and the mortality

rate must be taken in relation to a contract which may continue 50 years or more, (2) that part of the purchase price is necessarily spent in paying commission and expenses, (3) that the companies are currently investing available funds at relatively low rates of interest and do not anticipate any material improvement in yields, and (4) that the rate of mortality among annuitants is very low. Experience shows very clearly that those who buy life annuities are a superior class from the point of view of longevity, so that it is necessary to make a very conservative estimate as to the death rate to be expected. Moreover, as annuity contracts may extend for many years in the future, a low rate of interest must be assumed in the calculation of premiums. At higher ages the normally high death rate, even among this superior class of the population, is sufficient to enable the companies to offer a high apparent yield because the principal itself is spread over only a short period of years.

There is a general impression that, because of the progressive lengthening of life, the companies have, in general, lost money on annuity business. This is not necessarily so, since profit derived from earning a greater rate of interest than that assumed is an offset to the loss arising from low mortality. The trend of annuity premiums, however, has necessarily been upward and will probably continue so.

A feature which, at present, gives additional attraction to life annuities in this country is that the annuity payments are for some years after purchase subject to federal income tax only to the extent of 3 per cent of the purchase price. For example, if an annuity of \$900 per annum is purchased for \$10,000, tax is payable only on \$300. However, when the balances of \$600 per annum amount to \$10,000 (*i.e.*, in about 16 years) tax is thereafter payable on the full amount of the annuity payment.

(C) SPECIAL AND COMBINATION CONTRACTS

In view of the variety of standard forms of life-insurance and annuity contracts which are available, it might seem that there is little real need for additional special contracts. Such an opinion might be supported by the fact that all modern standard

policy contracts contain liberal provisions which make them adaptable to changing circumstances and special needs. Among such provisions are those providing for change in the plan of insurance, for cash-surrender values, and for optional forms of income settlements in lieu of payment in a single sum. A large proportion of all insurance written is on the standard forms; but practically all companies offer, in addition, contracts which are devised to provide for special needs or circumstances.

Among these types of policies not previously mentioned are some which have become widely popular and which are suitable to meet special requirements, while others have failed to win popularity or have proved unsatisfactory. A special policy adapted to meet specific circumstances is likely to prove unsuitable if conditions change, and it may be difficult or impossible to make a change in the contract or to make a substitution for it on terms which are completely satisfactory to the policyholder. Many of these special policies are later changed to some standard type of insurance, which it would frequently have been better to take in the first place. From the company's point of view special contracts cause additional expense which may not be justified by the volume of business transacted, and such forms undoubtedly cause a disproportionate amount of trouble in handling because of the special calculations involved and the greater frequency of changes. The various types of special contracts in use may be classified roughly into four groups:

1. Life-insurance policies payable primarily in the form of an income to the beneficiary rather than in a single sum;
2. Combinations of life, endowment, or term insurance, or of insurance and annuities in the same contract;
3. Life-insurance policies with premiums payable on an increasing scale; and
4. Miscellaneous contracts.

Life-insurance Policies with Income Settlement. Two forms of life-insurance contracts which, instead of providing for payment of a face amount of insurance, are written to provide a life

income beginning at the death of the insured, are the *life-income* policy and the *survivorship-annuity* policy. The life-income policy provides for payment of a life annuity of specified amount (usually payable monthly) to the beneficiary, commencing at the death of the insured, with the guarantee of a minimum number of payments certain. The survivorship annuity provides the same form of benefit without the guarantee of payments certain. These contracts are suitable where the insured desires to provide an income of predetermined amount during the whole lifetime of the beneficiary. This cannot be done by using insurance on a standard plan payable in a single sum, because the amount required to provide a specified *life* income to the beneficiary depends on the age of the beneficiary at the time the income commences and decreases as the age of the beneficiary increases. Thus, a life-income policy or a survivorship annuity provides, in effect, a decreasing *amount* of insurance which is at its maximum at the time the policy is issued.

Under the provisions for optional settlements in single-sum policies the insured or the beneficiary may elect to receive the proceeds in the form of an income, which may be (1) for a specified period certain only, (2) for the lifetime of the beneficiary with a stated number of payments certain, or (3) (in many companies) a life annuity without payments certain. The first of these settlements provides an income of specified amount but not for life. The other two settlements provide an income for life but not for an amount which is specified at the original date of the contract since the income payable will depend on the age of the beneficiary at the time of the death of the insured.

Since the effective amount of insurance, under a life-income policy or a survivorship-annuity policy, decreases from year to year, the company will incur as a death claim the *value* of the income to be paid to the beneficiary, i.e., the capital sum needed to provide this income at the time of the insured's death. This capital sum is sometimes called the "insurance value," which is thus at a maximum at the time of issue and which decreases as the beneficiary grows older.

In the case of a survivorship annuity, which is a life-income

policy without any payments certain, the insurance value is simply the amount needed to provide a life annuity to the beneficiary at the date of death of the insured. A life-income policy guarantees a definite number of years' income payments, usually 5, 10, or 20. The insurance value of a life-income policy will therefore consist of two parts: (1) the capital sum required to provide the specified number of payments certain; (2) the amount required to provide for the continuation of these payments after all the guaranteed payments have been made if the beneficiary is still living. The amount of the first part, the value of the payments certain, will be the same irrespective of the age of the beneficiary. For example, if the income provided by the policy is \$100 monthly and if the number of years' payments certain is 20, the capital sum required on a $2\frac{1}{2}$ per cent basis to provide these payments is \$19,175. This amount, which is part of the insurance value, is generally called the *commuted value* of the instalments certain. The remainder of the insurance value, which provides for continuation after the payments certain, depends on the age of the beneficiary, this part of the benefit being, in fact, a *deferred survivorship annuity* commencing, in this case, 20 years after the death of the insured instead of immediately after his death.

The life-income policy may therefore be considered as a combination of (1) a whole-life or endowment policy for the amount of the commuted value of the instalments certain and (2) a deferred survivorship annuity of the amount of income provided by the contract. The simplest form of life-income arrangement is a survivorship annuity, which provides an income of fixed amount to the beneficiary for life, commencing at the death of the person insured and without any guaranteed period whatever. This is different from merely settling a "single-sum" policy by the issue of a life annuity, since in the latter case the amount of the income secured would not be a fixed amount but would depend on the beneficiary's age at the death of the insured. Moreover, a whole-life or endowment policy is payable at the death of the insured whether the beneficiary named is then living or not, whereas the income under a survivorship annuity becomes pay-

able only if the beneficiary is living at the death of the insured. For that reason the cost of the survivorship annuity is much lower. The development of optional modes of settlement (including a life income to the beneficiary) in all regular policies has very largely removed the need for a special life-income policy. At one time, however, a considerable volume of such policies was issued, many of which are still in force.

Policies Combining Different Kinds of Insurance or Annuities.

The principal contracts combining different kinds of insurance or annuities are the *double-protection*, *family-income*, *family-maintenance*, and *insurance-with-annuity* policies.

Double-protection Policy. The double-protection policy is the simplest type of combination of different plans of insurance. It generally consists of equal amounts of whole-life and term insurance, thus giving "double protection" during the term period. The term insurance usually runs for 20 years or until age sixty-five and is convertible to a permanent plan.

Such a combination has no particular advantage over separate policies. It is more in the nature of a sales device since the small additional cost of doubling (temporarily) the amount of insurance protection may look like a bargain to the applicant. A disadvantage of this type of contract is that the applicant may not realize its true nature.

Family-income Policy. Originally, the family-income policy was a combination of ordinary-life insurance and decreasing term insurance in one contract which provided the following benefits: In event of death *within* a specified period (10, 15, or 20 years, as selected by the applicant) an income of \$10 monthly for each \$1,000 of the face amount of the policy was payable to the beneficiary for the *balance* of the selected period, followed by payment of the face amount at the end of the period when the income payments ceased; in event of death *after* the expiration of the selected period the face amount of the policy was payable in a single sum.

For example, if the selected period is 20 years and if the insured dies in the tenth year, the beneficiary receives \$10 a month for each \$1,000 unit for the remaining 10 years (and fraction of

a year) and \$1,000 at the end of that time. If death occurs in the fifteenth year the income is payable for only 5 years.

The general object of this arrangement is to provide income after the insured's death and while his children are still young.

Part of the income payments is provided by the interest earned on the amount of ordinary-life insurance (retained by the company until the end of the income period). The remainder is provided by the decreasing term insurance. If, for example, the rate of interest assumed by the company is $2\frac{1}{2}$ per cent, interest on the face amount withheld will provide \$25 of the \$120 annual income (\$10 monthly). The amount of term insurance in any year during the selected period will be the amount required to provide the balance of \$95 per annum for the remainder of the period. The term insurance required is thus at its maximum at the date of issue of the policy and decreases each month, reaching zero at the end of the selected period.

Family-income policies proved to be extremely popular and were very widely adopted. The original plan of combining the permanent and temporary insurance in a single contract or policy form has, however, been very generally replaced by the use of family-income *riders*. Such a rider provides the decreasing term insurance part of the arrangement and also provides in effect that in event of the death of the insured within the specified period, the proceeds of the policy to which it is attached will be held by the company under the interest option, the interest being used to provide part of the income payments. The practical advantages of a rider as compared with a special policy form are that a single form of rider can be used in connection with a permanent policy on any plan. The rider can also be adapted to provide for any desired period of term insurance. It would be expensive and impracticable to prepare special policies on more than one permanent plan (such as ordinary-life) or for more than two or three alternative "selected periods."

The development of family-income riders has led to the use of similar riders for other purposes where *decreasing* insurance is required. The principal such purpose is to provide for payment, at the death of the insured, of the outstanding balance of a

mortgage loan which is being repaid in regular instalments over a period of years, as, for example, an FHA (Federal Housing Administration) loan. Where used for that purpose the rider may be called a *mortgage-redemption rider*. If the regular family-income rider is used, a provision is added giving the beneficiary the right to *commute* the income payments and thus receive settlement in a single sum instead of in the form of a monthly income. The settlement would, of course, include the face amount of the permanent policy to which the rider is attached.

In general it is not considered practicable to issue a contract providing *only* for decreasing insurance. Unless such a contract is limited to cases where the initial amount of insurance is quite large the insurance in the later years would be very small—much smaller than the company's regular minimum. There would also be practical difficulties due to the fact that a *level* premium would greatly exceed the actual cost of insurance in the later years. Decreasing term insurance is, therefore, generally issued only in conjunction with a minimum amount of insurance on a permanent plan.

Family-maintenance Policy. The family-maintenance policy (sometimes called the family-protection policy) is, like the family-income policy, a combination of whole-life or other permanent insurance and term insurance; but in this case the term insurance is of uniform (not decreasing) amount throughout the selected period. It provides for payment beginning at the death of the insured, if that occurs within the selected period, of an income for a fixed period of 10, 15, or 20 years, *running from the date of death of the insured* (rather than from the *date of issue of the policy* as in the family-income policy), with payment of the face amount at the end of that time. If death occurs after the period of term insurance, the benefit is the same as under the family-income policy, *viz.* a single-sum payment of the face amount. Naturally the premium is higher than for the family-income policy since the benefit is greater.

The family-maintenance policy has not been adopted to the same extent as the family-income policy. It has, however, two

advantages over the family-income policy which are of some practical importance. The first of these advantages is that if conditions change—for example, if an applicant with one or more young children later has other children—a uniform term of income will meet the insurance needs at the applicant's death whereas a decreasing term of income, as in the family-income policy, might fail to do so. The second advantage is that since there is a uniform benefit in the event of death at any time during the period of term insurance, the family-maintenance policy is not subject to the same possible misunderstanding by the insured of what benefits the policy provides as the family-income policy. In the latter case it is important that the insured should understand that the maximum number of income payments will become payable only in event of his death almost immediately after the policy is issued and that the number of possible income payments is steadily decreasing.

Insurance with Annuity. The insurance-with-annuity contract is issued by nearly all companies and under a variety of other names, such as *endowment annuity*, *retirement endowment*, etc.

This policy was originally devised for the purpose of combining, in one contract, *insurance* of \$1,000 in event of death prior to a retirement age, such as sixty-five, and a *life income* of \$10 monthly beginning at that age—usually with either 10 or 20 years' payments certain. Such an arrangement requires the accumulation of a larger sum than \$1,000 at the maturity date, since \$1,000 is not sufficient to provide a life income of \$10 monthly (with payments certain) except at very advanced ages. The amount required to provide the income at the maturity date depends on the sex and age of the payee, on the number of payments certain, and on the mortality and interest bases used to compute it—which would normally be the same bases as for the life-income option in the optional modes of settlement in single-sum policies.

For example, on the mortality and interest bases now used by some companies, it requires about \$2,025 to provide a life income of \$10 monthly with 20 years' payments certain to a man of

sixty-five, and about \$2,130 for a woman. These figures are substantially higher than under the mortality and interest bases that were in general use when policies of this kind were first introduced.

A feature of all such policies is that, at the maturity date, the insured may elect to take the cash option or single-sum value of the income instead of the life income.

Since the amount of the reserve for an insurance-with-annuity policy must eventually equal the cash option at the maturity date, it will be seen that for some years prior to the maturity date the reserve and cash value of the policy will exceed \$1,000. In the case of policies issued many years ago when the cash options were lower than they are now, this did not occur until a few years before the maturity date. Originally, therefore, the usual *unit* of insurance for each \$10 of life income was \$1,000. If the insured died in the last few years before the maturity date when the cash value exceeded \$1,000, the larger amount was payable. Thus the amount of insurance under such a policy was "\$1,000 or the cash value if greater."

As the companies began to adopt lower rates of interest and more modern mortality tables in computing the amount of the cash option per \$10 monthly life income, thus increasing them substantially, it was found desirable to increase the unit, or face amount, of insurance so that the policy would not acquire a higher cash value than the face amount after it had been in force for a relatively short time. For example, if the face amount was \$1,000 and the cash option at maturity was \$2,000, the face amount might exceed the cash value for only about half of the whole period of the policy. In that case the policy would differ only slightly from the usual retirement form of deferred annuity—giving greater death benefits only in the earlier years.

Policies of this type are now usually issued on the basis of a unit of \$1,500, \$1,750, or \$2,000 of insurance (face amount) for each \$10 of monthly life income.

It will be seen from the foregoing explanation that this type of contract is equivalent to a deferred annuity of the retirement

type *plus* decreasing term insurance (for only part of the whole term of the policy) of the *excess* of the face amount over the cash value. It has the same defect as the deferred annuity, *viz.*, that unless the cash option is determined on a very conservative basis, losses may be incurred through adverse mortality experience arising out of the option to take cash, or because of further improvement in the mortality among annuitants, or because of a fall in the interest rate below that assumed. This policy, like the retirement annuity, is, in effect, a contract to sell an annuity at a future date at the buyer's option and on specified terms.

These "endowment annuities" were developed as retirement contracts and have increased greatly in importance with the extension of their use in establishing employee pension plans under the *pension-trust* system. In some companies a large volume of insurance is being written on this plan.

Policies Providing for Premium Payment on an Increasing Scale. Contracts providing for premium payment on an increasing scale include *modified life* policies as well as some miscellaneous contracts. •

Modified Life Policies. The principle involved in modified life policies is a *redistribution* of premium payments. Insurance is usually for the whole of life (although the plan is equally applicable to endowment insurance), but the premium payable during the first few years—usually 3 or 5—is reduced and may be only slightly greater than the rate for term insurance. Assuming the same basis of expense provision, the premium thereafter is greater for the remainder of life than the level premium at the original age of issue, but less than the rate at the attained age at the time of change. The *value* of these redistributed premiums is the same as that of the level premiums. Any such redistribution of premiums is practicable where the reduced premium payable for the first few years lies between (1) the regular level premium payable uniformly and (2) the premium for term insurance with automatic continuance on the permanent plan. Thus, these modified policies are similar to the term policy with automatic conversion, the difference being that a somewhat greater premium is paid during the preliminary period, thus creating a small "re-

serve" which has the effect of reducing the attained-age premium required for the remainder of life.

Such policies have cash and other nonforfeiture values during the preliminary period, but because of the low premium payable these values are necessarily small. Sometimes the premium for the preliminary period is so calculated as to be one-half the premium payable thereafter, which will then be somewhere between the level rates at the original and at the attained ages. Such a policy is sometimes improperly described as a "half-rate" policy.

The principle of redistributing premiums in the manner described above can be applied to any of the standard types of policies.

A practical advantage of this system, in the case of participating policies, is that since dividends normally increase from year to year, the *net cost* to the policyholder tends to be more nearly level than under the usual level-premium plan, at least in the earlier years. Under most such plans, the dividend payable in the year in which the premium increase takes effect is approximately equal to the amount of premium increase.

Other Increasing-rate Policies. A few companies have adopted other types of policies under which the premium rate is on an increasing basis. These are sometimes called "economic-adjustment policies." They vary in detail but are all of the same general type. They are intended for persons who at present cannot afford the higher rates on permanent regular plans for an adequate amount of insurance but who hope to be better off financially in a few years. It is questionable if special policies of this type are preferable to regular convertible term insurance under which a larger amount of immediate protection could be obtained at the same cost—with, however, a greater cost later. They are in any case apt to be more complicated and less adaptable to changing conditions.

Other Miscellaneous Contracts. Some of the contracts discussed in the following paragraphs are no longer issued. They have the disadvantage that their true nature is likely to be misunderstood by the insured. In some states their use would not be permitted.

Guaranteed-dividend Policies. Guaranteed-dividend policies are nonparticipating contracts which contain provision for the payment of an annual "dividend" of specified amount. Usually the policy contains a sheet of coupons for such dividends, resembling the coupons attached to bonds. In life insurance the term "dividend" means the policy's share in the company's divisible surplus earnings, and the amounts of such dividends cannot, of course, be accurately predicted at the date of issue of the policy. Guaranteed dividends, therefore, are not dividends at all but are simply an additional benefit for which an additional premium must be, and in fact is, charged. The reserve for such a policy would include the present value of future guaranteed dividends, which are as much a part of the contractual liability as the face amount of insurance itself.

Policies Providing for Payment at Death of the Face Amount Plus Cash Value. Because of misunderstandings regarding the true nature of level-premium life insurance and of the relative amounts of effective insurance protection under different forms of contract, it is sometimes asserted that the cash-surrender value of a policy is forfeited to the company when death occurs, and the claim is made that the company, in addition to paying the face amount of insurance, should also pay the cash-surrender value of the policy. This additional payment would be impossible under the usual forms, as is fully explained in the chapter dealing with reserves.⁴ Nevertheless, contracts have been issued, nominally on the ordinary-life plan or some other standard plan, which provide for payment of both the face amount and the cash value in event of death. As in the case of guaranteed-dividend contracts, the additional payment over and above the face amount of insurance is an additional benefit in the form of increasing insurance for which an additional premium is necessary. There is no theoretical objection to such a contract if anybody wants it. The objection to it lies in the possibility of misrepresentation whereby the purchaser supposes that he is paying for a regular

⁴ Chap. VI.

ordinary-life or other standard policy and getting a substantial additional benefit without additional cost.

Policies Providing for Settlement Involving an Apparently High Interest Rate. Some contracts provide that the proceeds at the death of the insured may be left with the company and that interest will be payable during the lifetime of the beneficiary at a rate—such as 6 per cent—higher than can normally be obtained or than is being earned by the company, together with payment of the proceeds at the death of the beneficiary. The policies of practically all companies provide optional modes of settlement under which the payee may elect to leave the proceeds with the company at a low guaranteed rate of interest in addition to which he will receive excess interest at such rate as may be determined by the company. In other words, the interest payable is limited to actual earnings. Where the contract specifies a rate higher than the company is earning or expects to earn, the additional interest is simply an additional benefit for which a premium is charged, the benefit in this case being in the form of a survivorship annuity. For example, if the policy specifies 6 per cent and if the company assumes that it can earn 3 per cent, the additional benefit in the case of a \$1,000 policy is a survivorship annuity of \$30 per annum payable to the beneficiary after the death of the insured. The premium for such a contract would therefore be greater than for a standard policy by the amount of the premium for the additional survivorship annuity. Here, again, there is nothing theoretically objectionable in the combination. The objection is the practical one that the insured probably thinks he is getting a “6 per cent investment” for the beneficiary and does not realize that he is paying an extra premium for the additional income promised.

Many years ago a number of different contracts of this character were commonly issued by some of the principal companies under such names as “5% Gold Bond,” “4% Debenture,” or “6% Consol.” Some of these contracts provided for payment of the interest rate specified during the lifetime of the beneficiary; others guaranteed the interest for a specified term of years. In

the latter case the policy was equivalent to a standard policy of an amount sufficient, at the rate of interest which the company assumed it could earn, to provide the amount of interest promised together with payment of the face amount after payment of interest terminated. For example, a "5% Gold Bond," which provided that at the death of the insured the company would issue to the beneficiary a 5 per cent bond maturing in 20 years, was equivalent, on the assumption that the company could actually earn $3\frac{1}{2}$ per cent, to about \$1,213 of insurance. Premium rates, cash values, etc., were determined accordingly.

Policies of the types described above and others of a misleading character have been discouraged by most state authorities. In the majority of states it is necessary to obtain the approval of the insurance department before issuing any new policy form, and states in which such approval is required would undoubtedly refuse to permit the issue of any misleading or questionable form of policy.

USES OF LIFE INSURANCE FOR BUSINESS PURPOSES

The use of life insurance for business purposes by individuals, firms, and corporations has very greatly increased in recent years. An insurance policy may be a valuable asset to a businessman. It is likely to increase his credit rating. When it has been long enough in force to have acquired a cash value, it is available as collateral security and, through the customary loan clause, as a means of quickly and privately securing ready cash in times of stringency. This is a point of no small importance, as has been abundantly proved in the past. During the financial panic of 1907, when loans were practically unobtainable even on the best security and when the rate of interest on such loans as were made rose to an unheard-of figure, the holders of life-insurance policies were able to borrow—and many of them did borrow—at 5 or 6 per cent and upon demand. This source of credit undoubtedly saved many persons from financial ruin.

For a few months in 1933, following the closing of all banks by the President of the United States, it was necessary, in the public interest, for state insurance authorities to declare a partial mora-

torium on the loan provisions of life-insurance policies in order to prevent serious and needless losses to all policyholders through forced sales of securities by the companies. Policies issued in recent years provide that a loan may be withheld for a period not exceeding 6 months. The object of this is to avoid the same situation as arose in 1933. While loans are thus not technically available *on demand*, in practice they are actually so, since the "delay clause" would be invoked only in an emergency.

For individuals, the value of a life-insurance policy as a means of making provision for payment of inheritance taxes is also very great, insurance being, in fact, the ideal method of providing for this liability. Inheritance taxes must be paid in cash, and the withdrawal of a considerable sum of cash from an active business or the sale of securities at short notice is very likely to cause some loss.

Life insurance is also useful to individual businessmen to provide against loss from the death of a debtor and for the purpose of safeguarding loans, particularly loans in which the element of personal security is present.

For partnerships and corporations, life insurance is of value for most of the purposes mentioned above and is now used much more than formerly for the purpose of paying out the interest of a deceased partner. In addition, corporations frequently desire protection against the loss which would result from the death of a valuable officer or employee. Many corporations take insurance on the life of the president of the corporation and sometimes on the lives of other officers or employees as well. Usually the reason for the insurance is the value of the services of the individual insured or the liability which may be created by his death. This value may lie in exceptional business ability, administrative capacity, or unusual knowledge on the part of the individual insured so that profits or even the business itself might be seriously affected by his death.

Corporations also sometimes find it convenient to use an endowment insurance policy on the life of a principal officer as a sinking fund, in order to provide a required sum of money, at a stated date, for the redemption of a bond issue or a mortgage

where the ability of the corporation to repay the debt might be endangered by the death of the person insured.

Prior to 1921, sums received by a partnership or corporation under policies of insurance paid at the *death* of the person insured were considered as income and were subject to the federal income tax. Under the present law, however, proceeds of such insurance payable at death, irrespective of whether the payee is an individual or a partnership or corporation, are not subject to income tax. This is, no doubt, one reason for the increase in the use of life insurance for business purposes.

JUVENILE INSURANCE

The usual lower limit of age for the issue of regular "adult" policies of the types described in this chapter is ten, or, in some companies, five. Nearly all companies also issue policies on the lives of children at ages below the regular "adult" minimum. These policies are issued on the application of the parent or other person responsible for the child's support.

In some states there are legal limitations on the amount of insurance which may be issued on the life of a young child. Most of these limitations apply up to age five, but in a few cases to age ten or fifteen. For this reason, a feature of most juvenile insurance is that the amount of insurance is graded *i.e.*, is on an increasing basis during the early years of life, reaching the "ultimate amount" at age five, ten, or fifteen. Usually, juvenile policies are available on only a few standard plans. Some companies issue special juvenile policies under which, in event of death before a specified age, such as fifteen or eighteen, the policy provides for the return of all premiums paid with interest thereon at a low rate. Such a contract is not considered as involving *insurance* prior to the specified age and therefore can be issued for any "ultimate" face amount. The more usual type of juvenile policy involving a graded, increasing *insurance* benefit from the date of issue could not be issued for large amounts unless the amount of effective insurance per \$1,000 at the lowest age were very small, so that insurance under a large policy would not exceed the legal limit.

A common feature in juvenile insurance is the addition of a provision or rider under which, in event of the death (or frequently, also the total and permanent disablement) of the *parent*, premiums under the policy are waived until the insured (the child) reaches a specified age such as eighteen or twenty-one. This is called a "premium-protection" provision or rider.⁵

⁵ Juvenile insurance is discussed further in Chap. X.

CHAPTER IV

THE MORTALITY TABLE

In order to understand many of the important practical questions which arise in life insurance, some knowledge of the methods used in calculating premiums and reserves is essential. The basis of life-insurance calculations is the mortality table. The mortality table shows the annual *death rates* or *rates of mortality* at each age which have been experienced in the past. A mortality table is thus simply a record of past experience, and the use of a mortality table as a basis for calculating life-insurance premiums involves the assumption or "expectation" that the experience of the future will duplicate that indicated in the table. Naturally this assumption will not be realized. Because of the progressive increase in the average duration of life the rates of mortality experienced in the future will normally be lower than those of the past. Where large numbers are involved, future experience may be very closely estimated because change in mortality rates is slow, and such rates, when applied to large numbers, are fairly stable. It is not at all necessary for the successful operation of a life insurance company that the mortality experience be capable of being accurately predicted. All that is necessary is that the rates of mortality used for calculating premiums be safe.

Construction of Mortality Tables. The proper construction of mortality tables is a highly technical matter. A general idea of the method of preparing such a table may, however, be derived from the following illustration showing how a life insurance company might construct a table on the basis of its own experience. A schedule could be drawn up showing for each attained age the number of persons insured in the company at Jan. 1 and also the number who had died during the succeeding year. The numbers

dying at each age could then be expressed as a proportion of the numbers of that age who were "at risk" during the year, so many per hundred or per thousand insured.¹ The schedule showing past experience would appear in part as follows:

MORTALITY EXPERIENCE

Age in 1950	Number insured	Number of deaths	Number of deaths per 1,000 insured
15	20		
16	60	1	16.7
17	100		
18	250	1	4.0
19	418	2	4.8
20	1,020	3	2.9
Etc.	Etc.	Etc.	Etc.

If the investigation is limited to a single year, the results, even in a very large company, will be subject to considerable distortion due to accidental fluctuations arising out of the small numbers and the short period involved. It would be better to base these "proportions dying" on the experience of several years instead of on the experience of a single year, so as to reduce these accidental fluctuations. If the experience of more than 1 year were used, the "number insured" would, of course, have to correspond with the number of years adopted. In technical language, the deaths during the whole period would have to be compared, not with the number of persons insured, but with the number of years' "exposure to risk" of death. Thus if the table were based on the experience of 5 years instead of 1, the deaths at each age

¹ In calculating the proportions it would be necessary to make allowance for the fact that some of the lives insured were not "at risk" for the whole year. For example, those taking insurance during the 12 months under consideration would, on the average, be insured for only 6 months. Others, who lapsed their policies, were "exposed" only for part of the year, and so on. These adjustments may be ignored for our present purpose.

during the 5 years would have to be compared with the total "exposure" at that age so that a person who was insured during the whole time would be counted once at each age attained during the period.

The figures in the last column, headed "Number of deaths per 1,000 insured," show the *rate of mortality* among the lives insured in the company in question during the period covered. The rate of mortality at any age is, therefore, *the proportion of persons of that age who die in a year*. This proportion may be, and usually is, expressed "per thousand," as "4 per thousand" at age eighteen in the above illustration, but it may be expressed in terms of other numbers such as per hundred or per hundred thousand living. Thus, mortality rates from specified diseases are usually expressed "per hundred thousand" living because such rates are much smaller than the total rate from all causes of death. In theoretical work the rate of mortality is usually quoted on a unit basis; e.g., "4 per thousand" would become 0.004.

If it is now desired to ascertain the "probable" number of deaths in the coming year, this may be done by arranging a schedule similar to that given above, showing the number of persons insured this year at each age attained, and by multiplying the number at each age by the previously ascertained death rate per thousand.² This is approximately the process by which life insurance companies ascertain the "expected deaths." In the same way the "expected claims" are obtained by multiplying the total *amounts* of insurance at each attained age by the rates of mortality. In practice it is usual to employ, for most purposes, a standard table of mortality rather than a set of mortality rates based upon the company's own experience.

It should be noted particularly that the "expected deaths" or "expected claims" are simply those which would occur if the company's mortality experience should coincide with the standard table used. For the reasons already explained this is not at

² Some smoothing process, or, as it is called, "graduation," would first have to be applied to the crude rates in order to eliminate accidental fluctuations due to small numbers.

all likely to happen and is certainly not "expected." These expressions therefore have a purely technical significance.

Mortality Tables Based on the Experience of Life Insurance Companies. The principal standard mortality tables based on the experience of life insurance companies of which the reader should have some knowledge are (1) the American Experience Table, (2) the American Men Table, (3) Table Z, (4) the Commissioners' 1941 Standard Ordinary Table, and (5) the 1941 Standard Industrial Table.

The American Experience Table. The American Experience Table was constructed in 1868 from the experience of the Mutual Life Insurance Company of New York during a period of about 20 years and was the first mortality table based on the experience of insured lives in America. Until only a few years ago it was almost universally used for the calculation of life-insurance premiums and reserves and is the basis upon which most of the outstanding ordinary insurance now in force was issued. It is no longer an accurate measure of mortality rates, particularly at the lower ages. For business issued since 1947 the American Experience Table has been generally replaced by the C.S.O. Table.

The American Men Table. The American Men Table, published in 1918, was based on the experience of a group of the principal companies during the period 1900 to 1915. The rates of mortality by this table are much lower at the lower ages than by the American Experience Table, the difference decreasing as age increases until from about age fifty-five there is very little difference between the two tables.³ This shows the general nature of the improvement in mortality, which has been much greater, relatively, at the lower ages. Since 1918 the same general trend has continued.

The American Men Table, representing the mortality experience of 35 to 50 years ago, can no longer be considered a "modern" table. However, it corresponds much more closely to modern experience, particularly as to the relative mortality rates at different ages, than does the American Experience Table.

³ See table on page 92.

lion children living at age one. The column headed "Number living" shows, at each age, the number out of the original million who survive to that age. The column headed "Number dying" shows the numbers who die at each age. The number dying at any age is the difference between the number who survive to that age and the number who survive to the next age. For example, the number dying at age thirty, namely, 3,292, is the difference between 924,609 and 921,317, the numbers surviving to age thirty and age thirty-one, respectively.

The column headed "Rate of mortality per 1,000" shows the death rates, or *proportions* dying, at each age (per thousand living). Thus, the death rate at age thirty, according to this table, is 3.56 per thousand. This figure can be obtained by dividing the number of deaths at age thirty (3,292) by the *number of thousands* living at age thirty (924,609).

The rates of mortality were, however, not obtained in that way. It is obvious that it would be impossible to find 1 million children all exactly age one or, if such a group could be found, to trace its history *year* by year until all were dead and thus to complete the columns of "Number living" and "Number dying." The actual procedure (as indicated at the beginning of this chapter) is to obtain *first* the rates of mortality at each age from the "exposures" and "deaths" in the actual experience. These rates are then smoothed out (or *graduated*) by a mathematical process to eliminate the accidental irregularities due to the comparatively small numbers involved. The smooth table of death rates thus obtained is the mortality table—the other columns ("Number living" and "Number dying") are supplementary.

The "Number living" and "Number dying" columns are obtained by selecting an *arbitrary* large number (in this case, 1 million) as a starting point at the lowest age and using the previously ascertained rates of mortality to complete the two columns. Thus, since the rate of mortality at age one is 5.77 per thousand, the number of deaths at that age out of 1 million (1,000 thousands) will be 5,770. The number who survive to age two is, therefore, 1,000,000 less 5,770, or 994,230. The number of deaths at age two will be obtained in the same way, by mul-

tipling the death rate per thousand at age two, namely, 4.14, by 994,230, giving 4,116 deaths, and so on until the whole table is completed.

The arbitrary large number (1 million) selected for the number living at the lowest age is called the "radix" of the mortality table. If a different radix were used (such as 500,000) all the figures in the "Number living" and "Number dying" columns would be changed but the rates of mortality would not be changed.

In the case of the C.S.O. Table, the highest age reached by anyone is ninety-nine. The number reaching that age (out of 1 million living at age one) is 125, all of whom die before reaching one hundred. Actually, where such large numbers are involved, the experience probably was that a few persons did live beyond age one hundred. The arbitrary termination of the table by assuming that no one reaches age one hundred is for practical purposes and has no significant effect on premium rates, etc. The age by which all are assumed to be dead (one hundred in this case) is the *limiting age* of the table.

Another point which the reader will observe is that the death rates per thousand are not in whole numbers but in whole numbers and fractions. For example, when we say that the death rate per thousand at age thirty, by this table, is 3.56 we mean that the number of deaths in a year out of 1,000 living will *average* 3.56, this having been the annual (adjusted) *average* according to the experience upon which the table was based.

Sometimes a mortality table has an additional column showing the "expectation of life" or "life expectancy" at each age. The figure in this column opposite any age is the *average* number of years of life lived after attaining that age by all who reach that age. The "expectation of life" is a misleading term since it has no significance whatever as to any individual, and does not show the probable future lifetime of an individual. The probable future lifetime of any individual depends on his state of health and may be much greater or much less than the average. It is quite commonly supposed that life insurance companies make their calculations of premium rates, etc., on the assumption that everyone will live for the period of his "life expectancy."

That is not the case, as will be explained in the following chapters. In fact, the only practical use of the "expectation of life" is for the purpose of comparing one mortality table with another.

The 1941 Standard Industrial Table. Since there is no medical examination, and, in general, less rigorous selection for industrial insurance (*i.e.*, insurance of small amounts, generally on a weekly- or monthly-premium basis) than for ordinary insurance, and since industrial policyholders are quite different as to occupational classifications and in other respects, a mortality table based on ordinary insurance experience would not be suitable as a basis for industrial insurance operations.

A special table was constructed on the basis of the industrial experience of the Metropolitan Life Insurance Company during the years 1896 to 1905. This table, the Standard Industrial Mortality Table, was in general use until 1948. In 1941 a new table, the 1941 Standard Industrial Table, was prepared, based on the experience of Metropolitan from 1930 to 1939. As in the case of the C.S.O. Table, the observed rates of mortality were increased to provide the necessary safety margin because of the recency of the experience used.

Basic Tables. Since 1934, a group of the principal companies has maintained a continuous mortality investigation on the basis of their combined experience. The statistics so obtained are used periodically by the mortality committee of the Society of Actuaries to construct *basic tables*. The main purpose of these tables is to study the trend of mortality rates. It is not practicable or necessary to make frequent changes in the mortality tables used for premium calculations and other practical purposes. Such changes are made only at long intervals.

Mortality Tables for Annuities. Mortality experience among annuitants is quite different from that among insured lives, so that the mortality tables described in the preceding pages would not be suitable for annuity calculations. Rates of mortality among annuitants, particularly at advanced ages, are considerably lower than among insured lives. As in the case of life-insurance policyholders, the rates of mortality among annuitants have steadily decreased.

In the case of annuities it is necessary to distinguish between male and female lives, because the mortality rates among female annuitants are much lower than among males and because a much more substantial proportion of all annuities issued are on female lives than is the case with life insurance. The difference between the mortality of male and female annuitants can be represented approximately by taking for females the mortality rate by the male table for an age 4 or 5 years younger. In this way the necessity of constructing separate tables is avoided, and other practical advantages are obtained.

While this device has been used in connection with some of the tables mentioned below it is not entirely satisfactory, particularly at advanced ages. In future, it seems likely that separate mortality tables will be constructed for male and female annuitants.

The principal annuity mortality tables are (1) the McClintock Table (1896), (2) the American Annuitants Table (1920), (3) the Combined Annuity Table (1928), and (4) the 1937 Standard Annuity Table.

Although all these tables are still used to some extent for computing reserves on existing annuities, all overstate the mortality rates as compared with current experience because of the continuous improvement which has taken place in annuitant mortality.

In the case of the 1937 Standard Annuity Table, the female table is the male table "set back" 5 years; for example, the mortality rate for age sixty, female, is the same as for age fifty-five, male. Currently (1951) many companies use for new annuities the 1937 Standard Annuity Table with an age "setback" of 1 or 2 years.

There is a need for a more up-to-date annuity mortality table which will represent future mortality experience more accurately than the 1937 Standard Annuity Table. A difficult problem in connection with annuity tables is that the general trend toward lower mortality rates renders the tables less safe as time goes on whereas, in connection with life insurance, lower mortality experience increases the margin of safety. This fact has led to the

realization that in preparing a new annuitant mortality table some allowance should be made for probable future improvement (decrease) in the rates of mortality. New mortality tables for annuities have, in fact, recently been prepared along these lines but have not, as yet, come into general use.

Mortality Tables Based on Population Statistics. From the description which has already been given of the general method of constructing a mortality table from the experience of a life insurance company, it will be seen that a mortality table could be constructed on similar principles from records other than those of life insurance companies. For example, important mortality tables have been based on the experience of the general population. In these tables, the "number of lives insured" is replaced by the "number of persons living," these numbers being obtained from census records. The number of deaths at each age is obtained from the official records of deaths, and the rate of mortality at any age is calculated as before by dividing the number of deaths by the number living. Such a table would, of course, be quite unsuitable for use by a life insurance company, at any rate, for "ordinary" business. Insured lives form a "select" group, from which, originally, those lives subject to abnormally high rates of mortality have been eliminated by medical examination and by other means of selection. The population table, on the other hand, is the experience of a large nonselect group which includes many persons in bad health, many engaged in unhealthy occupations, and others who would, for one reason or another, be ineligible for life insurance. It is, therefore, to be expected that the rates of mortality in a table constructed from population records will be higher, age for age, than the rates of mortality in a table based on the experience of an insurance company.⁴

⁴ At very high ages, however, the rate of mortality in a population table sometimes falls below the rate of mortality in an insurance table. This is because those in the general population who attain very great age are the survivors of the best classes. All the weaklings, the uninsurable, and the unfit generally have died, leaving only the strongest to survive. In insurance companies, however, many of the best lives among those who have not died give up their policies before reaching old age, while those whose health has deteriorated tend to retain them, thus causing an increase in the rate

The rates of mortality among the general population in certain parts of this country are shown in the United States Life Tables, which are prepared periodically by the U.S. Bureau of the Census. Up to 1910 these tables were based on the census and death records of the original registration states only, which are nearly all in the northeastern section of the country. The most recent tables cover the whole country.

The United States Life Tables contain separate tabulations for male and female lives, each being further subdivided to show the rate of mortality among white persons and colored persons, among native-born and foreign-born, and among those residing in cities and those residing in rural districts.

Generally speaking, the rate of mortality is lower among females than among males. It is lower among white persons than among colored persons. In fact, the rate of mortality among colored persons is almost double that among whites for the greater part of life. This is accounted for, to a considerable extent, by the large proportion of the colored population engaged in unfavorable occupations or living in the less healthful parts of the country or in unfavorable surroundings. The rate of mortality is lower in rural districts than in cities. It is lower among foreign-born persons at the younger ages than among native-born, probably because these are the ages at which most immigration takes place, but in view of restrictions which have been placed on immigration in recent years this difference will tend to disappear.

"Select" and "Ultimate" Mortality Tables. Because of medical examination and other methods of selecting life-insurance policyholders, the rate of mortality at any age among a group of policyholders will depend on the time which has elapsed since their insurance was effected. Thus, there will be fewer deaths in the first year of insurance among policyholders insured at age thirty than among the same number of survivors of those insured

of mortality at very high ages. Another reason for the relatively low rates at extremely high ages in population tables is found in the exaggeration of ages which undoubtedly exists to a considerable extent at these ages in the census figures

1 year ago at age twenty-nine and still fewer than among those insured 2 years ago at age twenty-eight. This saving due to selection is temporary and will gradually diminish until it becomes imperceptible. Thus, there will probably be no material difference between the average rates of mortality among two large groups of policyholders of the same age, one of which was insured 10 years ago and the other 11 years ago. For a short period, up to about 5 years, however, there will be a significant difference. This is expressed by saying that the effect of selection (on the mortality rate) "wears off" in about 5 years.

A *select* mortality table is one which shows the rate of mortality not only by age but by "duration of insurance," *i.e.*, time since selection. A complete select table would simply be a set of mortality tables, one for each age at issue. As stated above, the difference due to selection becomes negligible in about 5 years so that, instead of a complete table for each age at issue, a select mortality table is usually constructed in the form shown below.

SELECT MORTALITY TABLE -MORTALITY RATES PER 1,000

Age at issue	Year of insurance						Age attained
	1	2	3	4	5	6 and over	
20	2.73	3.59	3.80	3.96	4.13	4.31	25
21	2.78	3.66	3.86	4.01	4.18	4.35	26
22	2.83	3.72	3.91	4.06	4.21	4.39	27
23	2.86	3.76	3.96	4.08	4.24	4.41	28
24	2.91	3.80	3.99	4.11	4.26	4.43	29
Etc.	Etc.	Etc.	Etc.	Etc.	Etc.	Etc.	Etc.

The column headed "6 and over" shows the mortality rates at each attained age *after* the effect of selection has worn off (or has become negligible), or the *ultimate* mortality rates, and this column constitutes an *ultimate mortality table*.

All the ordinary insurance mortality tables already referred to, *viz.*, the American Experience Table, the American Men Table, Table Z, and the C.S.O. Table, are ultimate tables. In preparing them the mortality experience during the *select* period was excluded. Such tables are more convenient to use and for practical reasons are also in some other respects more suitable. The difference between premium rates calculated by a select table and those calculated by the corresponding ultimate table would not be sufficient to justify the complications involved in the use of a select table. While, therefore, a select table is a more accurate table for premium calculations (and, indeed, for most life-insurance purposes) it is customary to use ultimate tables. This avoids the necessity of constructing the much more voluminous monetary tables which would be required if all calculations were on a select basis.

One practical use of select tables is for the tabulation of mortality experience for comparative purposes. Comparisons, between companies or of the experience of different periods, would evidently be vitiated unless account were taken of the relative proportions of new business and the lower rates of mortality experienced on recent issues. Of course, such comparisons can also be made on an ultimate basis if the data relating to recent issues are excluded. The *basic tables* referred to on page 84 are prepared in select form.

Mortality Ratios. From what has been said in the preceding paragraphs it will be seen that the ratios of "actual" to "expected" mortality of companies, based on death claims paid each year, are of limited significance and may, in fact, be misleading, particularly when used to compare the mortality experience of one company with that of another. For example, a young company whose policyholders have nearly all been obtained within recent years will have a relatively large proportion of lives insured who have not yet reached the period of ultimate mortality. It will also have a relatively large proportion of lives insured at the lower attained ages.

Where the basis of the "expected" mortality is the American Experience Table (as it usually is for policies issued prior to 1947

or 1948) the expected mortality is greatly overstated at the lower ages. Even where the basis is the C.S.O. Table there is a relatively greater overstatement (margin) at these ages than at the higher ages as compared with actual experience. The ratio of the actual mortality in such a company to that expected, according to an ultimate table, is thus bound to be low irrespective of the methods of selection. The same will be true, but to a lesser extent, in the case of an older company which has substantially increased its volume of new business in recent years. On the other hand, an old company, particularly an old company which is not doing a large new business, has a high proportion of policyholders who have been insured for a period longer than 5 years and among whom the ultimate rate of mortality is the more accurate measure. It will also have a larger proportion of policyholders at the higher attained ages where there is less difference between the "expected" and actual mortality. In such a company the ratio of actual to expected mortality by an ultimate table (particularly if the table used is the American Experience Table, as is usually the case), is bound to be higher than in the younger company or in the company doing a large new business. The difference does not reflect actual experience age by age or imply a lower standard of selection. In either case the figure is a composite and artificial one, and such a comparison is of little significance. Only a comparison of rates of mortality among those of the same age who have been insured for the same length of time, or among those of the same age who have all been insured for periods sufficiently long to have nullified the effect of selection, is of real value. However, where conditions in the same company (as to relative proportions of new and old business and distribution by age) in different periods are fairly stable or where two companies have a comparable distribution of business by age and duration, the mortality ratio based on an estimate table may give a reasonably good measure of *relative* mortality experience.

Trend of Mortality. An examination of the table on page 92 will give a general idea of the nature and extent of the improvement in mortality rates which has taken place among insured

lives during the last century. The improvement extends to all classes of the population and has been due principally to improvement in living conditions, to increased medical and surgical skill, to greater attention to sanitation and to the public health generally, and, in the case of insured lives, to improved methods of selection. Each successive investigation shows some reduction in the rate of mortality. The table shows that the improvement in mortality rates among insured lives has been much more marked at ages below fifty-five or sixty. This improvement is found largely in a *postponement* of deaths from the lower to the higher ages, but there is little or no evidence of any material increase in the *total span* of life. Medical skill, although it has increased the *average* duration of life, has not succeeded in extending the *limiting age* of life, which is about one hundred. It is true that the old, as well as the young, experience the benefits outlined. The numbers of the old are, however, now increased by those who have been kept alive and brought forward, as it were, to die at the higher ages. The inclusion of the latter class is an offset, so far as the rate of mortality is concerned, to the improvement among those who would, in any case, have lived to old age. It might seem that perhaps there is a natural limit to the span of life and that, while the influences mentioned may and, in fact, do enable many more nearly to attain that limit than formerly, they cannot or, at any rate, do not cause any appreciable extension of it.

Some Common Fallacies as to Mortality Rates and Tables. Figures showing the increase in the "expectation of life" are apt to be misleading. For example, according to the United States Life Tables the expectation of life at birth has increased in the past 20 years from about fifty years to about sixty-five years. A very large part of this increase in the *average* length of life has resulted from the improvement in infant mortality which adds a great many years of life to the total making up the average. This improvement thus increases the *average* length of life very materially and would increase it even if there had been no improvement in mortality rates at higher ages and no increase in the average age at death. There has, however, been some im-

LIFE INSURANCE

COMPARISON OF MORTALITY RATES BY VARIOUS TABLES

(Rate of mortality per 1,000)

Age ¹	Life insurance experience (ultimate mortality)					Population tables (white males) U.S. Life Tables	
	Amer. Exper.	Amer. Men	Table Z	C.S.O.	1941 Stand. Indus.	1910	1939
15	7.63	3.46	1.70	2.15	2.86	2.83	1.50
20	7.81	3.92	2.23	2.43	3.93	4.89	2.14
25	8.07	4.31	2.37	2.88	4.73	5.54	2.47
30	8.43	4.46	2.52	3.56	5.39	6.60	2.83
35	8.95	4.78	3.15	4.59	6.58	8.52	3.68
40	9.79	5.84	4.51	6.18	8.71	10.22	5.21
45	11.16	7.94	6.93	8.61	12.32	12.64	7.84
50	13.78	11.58	10.14	12.32	17.55	15.53	11.70
55	18.57	17.47	15.30	17.98	24.75	21.50	17.30
60	26.69	26.68	23.37	26.59	36.08	30.75	25.20
65	40.13	40.66	35.62	39.64	53.33	43.79	37.00
70	61.99	61.47	53.94	59.30	74.56	62.11	51.10
75	94.37	91.94	83.20	88.64	106.26	92.53	82.00
80	144.47	135.71	127.13	131.85	153.65	135.75	Not published

Age ²	Annuity experience (ultimate mortality)							
	McClintock		Amer. Annuitants		Combined		1937 Standard	
	Male	Female	Male	Female	Male	Female	Male	Female
50	15.42	9.60	13.15	10.56	10.35	7.51	9.29	6.36
55	20.11	13.20	18.17	14.28	15.45	11.21	13.55	9.29
60	27.50	18.84	25.66	19.84	23.02	16.73	19.75	13.55
65	39.11	27.73	36.73	28.09	34.25	24.93	28.75	19.75
70	57.22	41.66	53.05	40.31	50.81	37.07	41.76	28.75
75	85.21	63.33	76.98	58.27	75.06	54.95	60.46	41.76
80	127.90	96.68	111.65	84.58	110.18	81.09	87.16	60.46
85	191.51	147.12	161.12	122.51	160.27	118.86	124.84	87.16

¹ Rates are not shown at very high ages because these rates are largely artificial and are affected by the "limiting age" selected.

² Rates are not shown below age fifty since few annuities are taken below that age and mortality rates are not representative.

provement at all ages but there is not the least likelihood that the limiting age of human life will be increased from about one hundred to, say, one hundred and fifty or two hundred, as is sometimes seriously suggested on the basis of past increases in the average. One factor, which is generally overlooked, is that there is now much less room for improvement than formerly, particularly in the early years of life. In other words, with the low rates of mortality now prevailing, only a limited further reduction is possible.

While a few individuals reach unusually high ages, sometimes exceeding one hundred years, these cases are rare. Reports of persons living at ages over one hundred should be accepted with caution. Where such a high age is claimed, there is frequently no evidence to sustain the claim. Most of the cases of extreme longevity are reported from such places as Central Africa or China and are obviously fictitious. The very old, particularly those belonging to the more ignorant classes of the community, are inclined to exaggerate their ages. A striking illustration of this is to be found in the United States Life Tables. These tables show, *inter alia*, the rates of mortality at each age for white males and for colored males and also for white females and for colored females. Throughout nearly the whole of life the rate of mortality among colored people is very much in excess of that among white people—nearly double in fact—but, according to the records, it appears that colored persons, both male and female, reach more advanced ages than white persons. The probability is that this is not really the case but rather that the ages of colored persons have not been so correctly recorded as have those of whites. In fact, the rates of mortality shown at ages between one hundred and one hundred and ten in all classifications indicate that there must be considerable exaggeration in this respect among all old persons whether white or colored.

Another common error relates to the crude death rates (*i.e.*, the death rates per thousand population) of different cities or localities. Comparisons of these crude rates are often made with a view to demonstrating that a particular city or locality is more salubrious than another. For example, a New York newspaper,

in referring to figures published by the Census Bureau, stated, "Akron is the healthiest city in the United States with a death rate of 7.5 (per thousand). Memphis has the highest of any city—17.4." It is quite wrong, however, to assume that these figures give any idea of the relative healthfulness of these two cities. Memphis is an old city in a part of the country which has long been settled. Akron is a young city only recently developed. There are undoubtedly more old persons per thousand of population in Memphis than in Akron, and it cannot be determined from the total death rate per thousand which of the two is the more healthful. This can be more clearly shown by a simple illustration, making use of the mortality table. Suppose there are two cities, the first of which has a population of one million persons all twenty years of age and the other a population also of one million but all sixty-five years of age. Suppose, further, that the normal rate of mortality is that shown by the United States Life Tables and that the first city is so unhealthful that it has double the normal number of deaths while the second is so healthful that it has only half the normal number of deaths. The table on page 92 indicates that the number of deaths in the first city would, in those circumstances, be 4,280; in the second city, 18,500. The crude death rates of the two cities would, therefore, be 4.28 and 18.5 per thousand, respectively, and in the absence of a knowledge of the facts it might be supposed that the former was more healthful than the latter, whereas the reverse is the case. Of course, these figures are extreme, but they illustrate the nature of a very common error. The same error is usually involved in the comparison of the mortality ratios of two insurance companies. In making comparisons of any kind it is essential that all relevant facts be taken into account. This is particularly true in regard to comparisons relating to life insurance companies where many factors may affect the validity of the comparison. Illustrations of this fact will appear in later chapters.

CHAPTER V

PREMIUM RATES

The premium is the consideration which the person insured pays to the insurance company for a life-insurance policy. The premium may be a single payment but is usually an annual payment, either for life or for a limited term of years, depending on the kind of policy selected. An annual premium may be payable in semiannual, quarterly, or monthly instalments. The word "instalments" is used here because until a few years ago it was the universal custom to calculate all life-insurance premiums on an annual basis so that, where premiums were paid otherwise than annually, any unpaid "instalments" for the policy year current at death were an indebtedness deductible from the amount of insurance. As will be explained later, however, many companies now compute semiannual, quarterly, and monthly premiums on a basis which does not treat such premiums as instalments of an annual premium and which does not require payment of any "fractional premiums" which would have been payable after the date of death.

The elements which enter into the calculation of premium rates for a life-insurance policy are (1) the rate of mortality; (2) the rate of interest; (3) the rate of expense, in which is included any provision for contingencies not covered in the margin expected from the mortality and interest rates assumed.

The first two elements, the rate of mortality and the rate of interest, determine the amount of the *net premium*. The net premium is that premium which *in the aggregate* will be sufficient to pay all claims. It assumes that deaths take place exactly according to the mortality table adopted as a basis for calculation and that the net premium is invested immediately on receipt at the rate of interest assumed in the calculations. The net

premium provides for the amount payable as the proceeds of the policy whether as a claim by death, by maturity as an endowment, or upon surrender. It does not provide for expenses of operation or for contingencies of any kind except to the extent provided by the margins in the basic assumptions as to mortality and interest.

The procedure in constructing a table of premium rates for practical use is first to calculate the net premiums and then to add to these the amounts considered necessary to cover expenses, together with an allowance for contingencies and, in the case of stock companies, for profit. The total amount so added to the net premium is the *loading*. The net premium increased by the loading is the *gross premium*, which is the premium payable by the policyholder. In the case of participating policies the loading is usually substantially greater than will ordinarily be required, and, under the usual system of distributing surplus, the excess over actual requirements together with any savings from mortality or excess interest earnings will be returned to the policyholder as a *dividend*.¹

Net Single Premiums. Although single-premium policies are of relatively minor importance, we shall, for simplicity, explain first the calculation of net *single* premiums, since the calculation of the net *annual* premium is based upon the net single premium for the same kind and amount of insurance. In all theoretical work, such as the calculation of net premiums, it has been usual to assume that death claims are paid at the *end* of the policy year in which death occurs. This is not in accordance with the facts, since claims are paid immediately upon proof of death and title, and the policy contract generally so provides. The assumption that payment of claims is made at the end of the year of death, however, simplifies the calculation of premiums, and it is an easy matter to adjust the actual premium rates to allow for the immediate payment of claims, if it is considered necessary to do so. It might be pointed out that, as death takes place on the average in the middle of the policy year, and as a period of

¹ Dividends are discussed in Chap. VIII.

about 1 month, on the average, elapses between the date of death and payment of claim, the adjustment for immediate payment of claims should be an amount sufficient to provide for about 5 months' loss of interest on the sum insured.

The practice of calculating premium rates with allowance for immediate payment of claims is becoming more general, but for present purposes and for simplicity we shall assume the more common (and formerly universal) practice of assuming that claims are paid at the end of the policy year in which death occurs.

The first step is to select a suitable mortality table and rate of interest. For premiums on participating policies these will be chosen on a conservative—perhaps an ultraconservative—basis, while for nonparticipating insurances both the mortality rate and the interest rate must be closer to those actually expected, since in that case there is no subsequent adjustment of cost by dividends. In general, therefore, the calculation of rates for nonparticipating policies requires a very careful estimate of probable future mortality, interest, and expense, while, for participating policies, it is sufficient that the premium rates be on a *safe* basis.

For purposes of numerical illustration the C.S.O. Table with interest at $2\frac{1}{2}$ per cent will be used. That is the basis used by a number of companies at the present time in calculating net premiums for participating policies.

The figures below, taken from a compound-interest table, provide one of the two elements of the first illustrative calculation.

PRESENT VALUE OF \$1 AT $2\frac{1}{2}$ PER CENT

Number of Years	Present Value of \$1 Due in Number of Years Stated
1	\$0.9756
2	0.9518
3	0.9286
4	0.9060
5	0.8839

The table shows that \$0.9756, or about 97½ cents, invested for 1 year at 2½ per cent interest will amount to \$1 at the end of the year; that \$0.9518, or about 95 cents, invested for 2 years at 2½ per cent compound interest will amount to \$1 at the end of that time; and so on. Another way of explaining the table is to say that, to have \$1 at the end of 5 years, for example, it is sufficient to have \$0.8839, or about 88½ cents, now, provided that amount can be invested at 2½ per cent compound interest during the 5 years. The expression "present value" used here will occur frequently. The present value of a sum of money payable at a future time is the amount of money which, if invested now, will accumulate to the required sum at the time when the latter is to become payable. Thus, from the table, 88.39 cents is the present value at 2½ per cent of \$1 due in 5 years.

One-year-term Policy. As a first example, the net single premium required to provide term insurance for 1 year on the life of a person aged thirty will be calculated. The mortality table on page 81 indicates that, out of 924,609 persons who attain age thirty, 3,292 die before reaching thirty-one. If a 1-year-term policy of \$1,000 should be issued upon attainment of age thirty to each of 924,609 persons and *if the actual death rate among them should be the same as that shown by the table*, the death claims would amount to \$3,292,000.² Although these claims will occur throughout the year, it is assumed in calculating the premium that all will be paid at the end of the year, *i.e.*, the "policy year," or year of insurance. Referring to the interest table, it is found that in order to have that amount at the end of the year it would be necessary to have \$3,211,675 ($\$3,292,000 \times 0.9756$) at the beginning of the year, since \$3,211,675 together with 1 year's interest at 2½ per cent equals \$3,292,000. Since it is not known at the beginning of the year which of the 924,609 persons insured will die, each must pay the same share, or "premium." This share would amount to \$3.47 ($\$3,211,675 \div 924,$

² The reader should remember that all calculations of this character depend upon *large numbers*, *i.e.*, upon a sufficiently broad basis of operation to ensure average results.

609), which is the net single premium for term insurance for 1 year at age thirty, according to the C.S.O. Table, with interest at $2\frac{1}{2}$ per cent.

The same result may be obtained by a different method. The average number of persons who die in a year out of each 1,000 living at age thirty is 3.56 (the rate of mortality). If it were a *certainty* that all would die within 1 year, the amount of the single premium required from each would be \$1,000 discounted for 1 year at $2\frac{1}{2}$ per cent, or \$975.60; but as only 3.56 out of each 1,000 policies will, on the average, become payable, that amount (\$975.60) may be reduced in the ratio which 3.56 bears to 1,000, i.e., to $\frac{3.56}{1,000} \times \975.60 , which is found to be the same as before, viz., \$3.47.

Whole-life Policy. The single premium for term insurance for 2 years could be obtained by a similar process, but it is desirable to proceed at once to the calculation of the net single premium for whole-life insurance, which, on the basis of the C.S.O. Table, is equivalent at age thirty to a 70-year term insurance continuing to the extreme age of the mortality table. In order to reduce the amount of arithmetical calculation the net single premium will be calculated, for purposes of illustration, at age ninety-five instead of age thirty. Of course, policies are not issued at age ninety-five, but the procedure in calculating the premium at that age, if such a policy were issued, would be precisely the same as if the age were thirty, though the figures involved are much smaller and the arithmetical work is much shorter. For convenience of reference an extract from the mortality table is given on the following page.

As before, the premium will be determined by assuming that a policy of \$1,000 is issued to each of the 3,011 persons living at age ninety-five. During the first year, 1,193 persons die. The amount required at the *end* of the first year to pay death claims occurring in the first year is, therefore, \$1,193,000. Hence \$1,163,891 ($\$1,193,000 \times 0.9756$) must be collected at the outset to provide for claims of the first year. In the same manner, at the end of the second year \$813,000 will be required to pay the

Age	Living	Dying
95	3,011	1,193
96	1,818	813
97	1,005	551
98	454	329
99	125	125

claims then due, and there must, therefore, also be collected *now* (since we are calculating the *single* premium) \$773,813 ($\$813,000 \times 0.9518$) to provide for the second-year death claims. Continuing in the same way, the respective amounts which must be paid now in order to make it possible to meet the death claims of the third, fourth, and fifth years may be calculated. By adding together these amounts and dividing the total by 3,011 (the number of lives to be insured) the total single premium to be paid in by each is ascertained. The following table shows the calculation in detail:

CALCULATION OF NET SINGLE PREMIUM FOR WHOLE-LIFE POLICY FOR \$1,000.
AGE NINETY-FIVE. C.S.O. TABLE, 2½ PER CENT

Year	Number living	Death claims	Present value of \$1	Present value of death claims (3) × (4)
(1)	(2)	(3)	(4)	(3) × (4)
1	3,011	\$1,193,000	\$0.9756	\$1,163,891
2	1,818	813,000	0.9518	773,813
3	1,005	551,000	0.9286	511,659
4	454	329,000	0.9060	298,074
5	125	125,000	0.8839	110,488

Total single premiums	\$2,857,925
Net single premium per person insured -	
\$2,857,925 ÷ 3,011	\$ 949.16

Endowment-insurance Policy. The net single premium for an endowment-insurance policy is calculated in the same manner as has just been shown for single-premium term or whole-life insurance. Thus, to calculate the net single premium for a 5-year endowment-insurance policy at age thirty-five³ it would first be necessary to calculate, by means of mortality and interest tables, the amounts necessary to provide for the death claims payable in each of the 5 years on the assumption that all the 906,554 persons living at age thirty-five took such policies; *i.e.*, there would be added together the discounted value of \$4,161,000 due in 1 year, \$4,386,000 due in 2 years, and so on, up to and including \$5,162,000 due in 5 years. To the total there would then be added the discounted value of the amount payable to those who survive the period of 5 years and whose endowments "inature," that is, \$1,000 for each of the 883,312 persons who attain age forty. The grand total so obtained would then be divided equally among the 906,554 persons insured, the result being the net single premium required. The procedure will be easily understood from the detailed calculation given on the following page.

Net Annual Premiums. The calculation of the net annual premium is more complicated. In practice, the methods described in Appendix A are used. For the nonmathematical reader the explanations here given will be sufficient to show the general nature of such calculations.

An annual premium is, in effect, a *life annuity* payable by the policyholder to the company. The first step in calculating annual premiums is to determine the present value of (*i.e.*, net single premium for) a life annuity of \$1 per annum. A life annuity is an annual payment to continue during life. If the value of a life annuity of \$1 is known, it is possible to determine by simple proportion, or "rule of three," the amount of the annual premium equivalent to any given single premium.

Life-insurance premiums are payable in advance, so that the

³ An unusually short endowment period is selected for purposes of illustration merely to shorten the arithmetical work

**CALCULATION OF NET SINGLE PREMIUM FOR 5-YEAR ENDOWMENT-INSURANCE
POLICY FOR \$1,000. AGE THIRTY-FIVE. C.S.O. TABLE, 2½ PER CENT**

Year	Number living	Deaths claims	Present value of \$1	Present value of death claims
(1)	(2)	(3)	(4)	(3) × (4)
1	906,554	\$4,161,000	\$0.9756	\$4,059,472
2	902,393	4,386,000	0.9518	4,174,595
3	898,007	4,625,000	0.9286	4,294,775
4	893,382	4,878,000	0.9060	4,419,468
5	888,504	5,162,000	0.8839	4,562,692

Total required for death claims. \$21,511,002

Required for 883,342 maturing endow-
ments, \$883,342,000 × 0.8839. 780,785,994

Total single premiums \$802,296,996

Net single premium per person insured—

\$802,296,996 ÷ 906,554 \$885.00

preliminary problem is to determine the present value of a life annuity of \$1 per annum payable in advance each year during life and ceasing with the payment made at the beginning of the year in which death occurs. As before, in order to reduce the arithmetical work a high age will be used for the illustrative calculation. The procedure is exactly the same for any age. If each of the 3,011 persons attaining age ninety-five pays \$1 at once and \$1 at the beginning of each year of age attained prior to death, the *total* amount received from all would be, at the beginning of the first year, \$3,011; at the beginning of the second year, \$1,818; at the beginning of the third year, \$1,005; at the beginning of the fourth year, \$454; at the beginning of the fifth year, \$125. The present, or discounted, value of these payments is shown on page 103.

Year	Amount received at <i>beginning</i> of year	Present value of \$1	Present value
1	\$3,011	\$1.0000	\$3,011.00
2	1,818	0.9756	1,773.64
3	1,005	0.9518	956.56
4	454	0.9286	421.58
5	125	0.9060	113.25
Total present value.			\$6,276.03

The total value shown above, \$6,276.03, is also the amount which would be sufficient to provide a payment of \$1 to each of the 3,011 persons living now and a further payment of \$1 per year thereafter annually to each of the survivors on each anniversary until all are dead. The amount necessary *on the average* to provide this annuity for *each one* of the 3,011 persons is therefore \$2.08 ($\$6,276.03 \div 3,011$). This latter amount, *viz.*, \$2.08, must therefore be the single sum which is equivalent in value to payments of \$1 per annum in advance during the lifetime of a person aged ninety-five, and is therefore also the *single premium* at that age which corresponds in value to an *annual premium* of \$1.

It has already been seen that \$949.16 is the amount of the net single premium required at age ninety-five to provide a whole-life insurance of \$1,000 payable at death. The required annual premium will therefore be the equivalent in dollars of the number of times \$2.08 is contained in \$949.16, that is, $\$949.16 \div \2.08 , or \$456.33. In other words, the net *annual premium* is obtained by dividing the net *single premium* by the appropriate "annuity value" corresponding to the age and premium-paying period. The amount of the annual premium must be such that the total present value of all the annual premiums is the same as the amount of the single premium.

Net annual premiums for other kinds of policies are calculated on similar principles, but the arithmetical details are more complicated. For our purpose, which is merely to explain the general procedure in calculating premiums, it is not necessary to take up these more difficult calculations.

Attention is again called to the fact that all of the foregoing calculations are based on the following assumptions: (1) that death claims are paid at the *end of the policy* year in which death occurs; and (2) that (in the case of annual premiums) a full annual premium is received for the year of death. In practice, the calculations sometimes make allowance for immediate payment of claims, and, in some companies, for payment of only a prorata premium in the year of death.

The Loading. As has already been explained, an addition must be made to the net premium to provide for expenses of operation and for contingencies. In order to decide *how* this addition should be made, the nature of the expenses to be provided for must be considered. The expenses in connection with a life-insurance policy may be divided into (1) those which depend on the amount of the premium and (2) those which are independent of the amount of the premium. The chief items in the former class are commissions to agents and state taxes on premiums. Expenses which are independent of the amount of the premium may depend on the amount of insurance or may be independent of the amount either of premium or of insurance. Thus the cost of medical examination and inspection is usually more for a policy of large amount, although not directly proportionate to the amount, while the cost of keeping the policy records, the general administrative expenses of the home office, and so on, are the same for every policy irrespective of the amount of insurance or the amount of the premium. Although theoretically desirable, it would be impractical to vary the premium *rate* according to the amount of insurance except to a very limited extent. In determining the basis of loading, therefore, expenses must, in practice, be considered in relation to the amount of the *average* policy. Thus, while the cost of a medical examination may be \$5, it is clearly not necessary to assume that

amount per \$1,000 of insurance. If the average policy is for \$2,500, it is sufficient to use \$2 per \$1,000. This will result in sufficient amounts being received *in the aggregate* to take care of all the expenses of medical examination. It is true that this involves payment of a smaller amount than is necessary for this purpose by those who take policies for less than the average amount and a greater amount by those whose policies are greater than the average amount. A strictly correct treatment of expenses of this class would, in fact, involve a different scale of premium rates for each amount of insurance; but, as already stated, that is not practicable. The attempt to carry out such a plan would, in itself, greatly increase the expense of conducting the business. Moreover, the question is more complex than appears at first sight. Additional items of expense—such as special examinations—are frequently involved in the case of large policies which are not necessary for policies of smaller amount. On the whole, however, if it were practicable it would also be desirable to grade premium rates according to amount of insurance.

It would appear, then, that the loading should consist partly of a percentage of the premium, partly of a constant amount for each \$1,000 of insurance, and partly of a constant amount for each policy, but that, because of practical conditions, only the first two of these can be applied.

If the loading consists *only* of a percentage of the net premium and is the same for all ages and plans, the percentage which will be required at low ages for the lower-premium plans in order to give a sufficient *amount* for expenses will produce a more than sufficient amount of loading at the higher ages or on the higher-premium plans. For example, on the ordinary-life plan, the net premium for insurance of \$1,000 at age twenty is \$12.49; at age sixty it is \$58.18 (C.S.O. Table, 2½ per cent). If these net premiums were “loaded” by adding 30 per cent, the amount of the loading would be \$3.75 at age twenty and \$17.45 at age sixty. Since only a part of the expenses depends on the amount of the premium, if the loading were on the basis stated and were sufficient at low ages it would be more than sufficient for policies taken at higher ages. An unvarying percentage, therefore, is not,

theoretically at least, the most suitable basis for loading, although sometimes premiums for participating policies are loaded in that way, proper adjustment of cost being made in the dividend.

Again, if the loading were a constant *amount* per \$1,000 of insurance at all ages, it would have to be sufficient to cover the commission and other expenses depending on the premium at the highest age, and that amount would be much greater than the amount necessary at lower ages.

This indicates that the most logical and practical form of the loading is a percentage of the premium *and* a constant amount per \$1,000. The percentage and the constant will not necessarily be the same for different plans of insurance since commission rates generally vary by plan.

A common method of loading premiums for participating policies is that by which the loading for any specified plan is a percentage of the net premium for that plan and a percentage of the ordinary-life net premium. Variations of this system exist which work reasonably well in conjunction with consistent dividend systems. The idea underlying such systems of loading will be seen from the following example:

Basis of loading: For ordinary life, 25 per cent of net premium; for limited-payment life, $12\frac{1}{2}$ per cent of net premium and $12\frac{1}{2}$ per cent of ordinary-life net premium; for endowment, $6\frac{1}{4}$ per cent of net premium, $6\frac{1}{4}$ per cent of limited-payment-life net premium (same number of premiums), and $12\frac{1}{2}$ per cent of ordinary-life net premium. The reader will note the apparently arbitrary character of such a rule and should remember that, for participating policies, the *amount* of the gross premium is not important so long as it is *sufficient* and provided that proper adjustment to the actual cost is made in the dividend scale through the use of an appropriate "expense factor." The loading for the ordinary-life plan is thus merely a "reasonable" loading of *sufficient* amount.

If we denote the respective net premiums at any given age for life, limited-payment-life, and endowment policies (the two latter providing for the same numbers of premiums) by *A*, *B*, and

C , the amount of loading under the method indicated in the preceding paragraph may be expressed as follows:

For ordinary life	$\frac{1}{4}A$
For limited-payment life	$\frac{1}{8}A + \frac{1}{8}B$
For endowment	$\frac{1}{8}A + \frac{1}{16}B + \frac{1}{16}C$

The last two lines may be rewritten as follows:

Limited-payment life	$\frac{1}{4}A + \frac{1}{8}(B - A)$
Endowment	$\frac{1}{4}A + \frac{1}{8}(B - A) + \frac{1}{16}(C - B)$

In this form it is evident that this system of loading provides for limited-payment-life policies the same *amount* of loading as for an ordinary-life policy of the same age *plus* a smaller proportion of the *excess* of the limited-payment premium over the ordinary-life premium. Similarly, it provides for endowment policies the same *amount* of loading as for a limited-payment-life policy *plus* a still smaller proportion of the excess of the endowment net premium over the limited-payment-life net premium, in other words, the same amount of loading as for ordinary life plus reducing percentages of the successive excess amounts of the limited-payment and endowment net premiums. This is, in general, a reasonable basis since the *extra* expense on the higher priced plans is almost entirely in the nature of a percentage of premiums, as for additional state tax and commissions, while the rates of commissions are generally lower on the higher priced plans.

It has been stated that the object of the loading is to provide for expenses and contingencies. The amount necessary for expenses is approximately ascertainable, but the amount required to meet unforeseen contingencies such as capital losses or failure to earn the rate of interest assumed cannot be predicted. All companies accumulate a special fund for this purpose. In theory, this fund is made up by contributions from premium loadings but actually is accumulated largely from miscellaneous savings, investment gains, etc. The proper amount of the fund is largely a matter of opinion and depends, to a considerable extent, on the size of the company. Usually there is no *specific* part of the loading added for contingencies, but the amount, if any, to be

added to the contingency fund is determined in the aggregate at the end of each year.

Nonparticipating Policies. In the case of participating policies it is not necessary that the gross premium be calculated with extreme refinement, since part of the loading is expected to be refunded, together with other savings, in the form of dividends. It is sufficient if, in fixing the loading, the broad principles which have been outlined are followed, as any minor inequities in loading can be taken care of through an adjustment of dividends. The calculation of premium rates for nonparticipating policies is quite a different matter. Premiums for such policies must be based on rates of mortality, interest, and expense which represent approximately the actual rates to be expected in future with, of course, a margin for safety and for profit. Hence nonparticipating premiums are based on up-to-date mortality experience with more realistic assumptions as to interest and expense than in the case of participating policies. Since there is no subsequent adjustment of costs (by dividends), nonparticipating premiums must be equitable, sufficient, and competitive.

If conditions change adversely, as by a substantial fall in the interest rate, the premium rates which have been charged for nonparticipating policies may prove to be deficient, although the general tendency of mortality rates to improve will operate as a safety factor. Conversely, improved conditions may justify a reduction in the rates for such policies. No change, however, is possible in the premiums payable under existing policies, these being fixed by the contract. While, therefore, the nonparticipating plan may work very well when the rates of interest and mortality remain fairly stable over long periods, it will not work so well under changing conditions.

Accuracy of Premiums. The rates of premium for participating policies are usually based, as has been explained, upon the assumption of conditions distinctly less favorable than are expected to be realized. In the past this has been true as regards all three factors in the premium rate. Thus, over a long period, when the average net rate of interest actually earned was between 4 and 5 per cent, the rate of interest generally assumed in

premium calculations for participating policies was 3 or $3\frac{1}{2}$ per cent.

Since the middle 1930's the interest rate obtainable has fallen drastically. The actual net rate of interest earned by many companies since about 1945 on their total investments has been about 3 per cent—in some companies less than 3 per cent. The rates of interest assumed in premium calculations have therefore been reduced. The interest assumption for participating policies issued since 1947 or 1948 has been from 2 to 3 per cent with relatively few companies using either of these rates, the majority using an interest assumption of $2\frac{1}{4}$, $2\frac{1}{2}$ or $2\frac{3}{4}$ per cent. Even on this basis, the *margin* between the rate assumed and that earned is generally far less than was formerly the case, a fact that has an important effect in reducing dividends. The effect of low interest rates is, of course, to increase the cost of insurance and, at the same time, to make it impracticable for the company to maintain as large a margin for contingencies or for dividends.

As regards the mortality assumption, most companies continued until about 1947 to use the American Experience Table for participating policies, although that table greatly overstated the mortality rates at the lower ages. The need for adopting a more modern table with lower rates of mortality, although in many ways this would have been desirable, was not felt until it became necessary to reduce the interest assumption (which increases premium rates). As a result of this change, the C.S.O. Table has now universally replaced the American Experience Table as the mortality basis for policies currently being issued.

It is important to realize that changes in the basis and amount of premiums for participating policies do not in themselves mean a higher or a lower actual cost to the policyholder. The *net cost* to the policyholder (premium less dividend) will be determined by the rates of interest, mortality, and expense *experienced*, not by the rates *assumed* in calculating the premium. It is true that changes in the interest assumption or in the mortality table may change the *incidence* of the cost. A lower interest assumption, for example, will, in general, result in higher net costs in the earlier years and lower net costs later. The average or over-all

net cost of participating insurance will not, however, be changed merely by changing the assumptions.

The same considerations indicate that the actual net cost in a company with relatively high participating premium rates (and there is considerable variation between companies in this respect) will not necessarily be greater than in a company with lower gross premiums. It may, in fact, be less, since in both cases the actual cost will depend on experience. Relatively high gross premiums have, in fact, important advantages, both to the company and to the policyholder; the most important of these is that they provide a greater safety margin which is available in time of need. Experience has shown that it is very desirable to have a substantial margin.

The provision of a substantial margin in premium rates is inherent in the mutual system and is, in fact, a source of strength and an advantage to the policyholder. If conditions should become so unfavorable as to equal those assumed, the premium would still be sufficient. Life insurance companies must be prepared for the unexpected, such as epidemics, depressions, and wars, as well as for the possibility of capital losses, reduced interest earnings, or increased expenses. The system of charging relatively high premium rates for participating policies is as nearly proof against the unknown events of the future as any system can be.

Differences in net premiums due to differences in the table of mortality used or in the rate of interest, or both, are illustrated in the table on page 111. A reduction in the interest assumption increases the net premium, while the adoption of a more modern table, in general, decreases it. Where *both* changes are made, the net result may be either an increase or a decrease, depending chiefly on the extent of the interest reduction.

Premiums Paid Otherwise than Annually. Some people find it more convenient to pay premiums semiannually, quarterly, or monthly, instead of once a year.

As was pointed out at the beginning of this chapter, the basic premium is the *annual* premium, and the method of calculation of the net premium usually (although not invariably) involves

the assumption that a full annual premium will be paid for the year in which death occurs, as for every other year. Where premiums are paid otherwise than annually, the total amount paid per annum must be greater than the amount of the annual premium. This is necessary since, not only does the company lose

COMPARATIVE NET PREMIUMS PER \$1,000

Age	American Experience Table		C.S.O. Table	
	3%	2½%	3%	2½%
Ordinary life				
25	\$16.11	\$17.26	\$13.34	\$14.60
40	24.75	26.11	23.25	24.65
55	45.54	47.03	44.55	46.01
20-payment life				
25	24.98	27.91	21.18	24.23
40	33.14	35.85	31.39	34.14
55	50.66	52.76	50.03	52.16
20-year endowment				
25	41.01	42.96	38.29	40.30
40	43.01	44.94	41.58	43.54
55	53.93	55.73	53.61	55.42

interest on that part of the premium which is not paid at the beginning of the policy year, but the administrative expense is increased with the frequency of payment. The loss of interest is usually much less important than the additional expenses of collection, bookkeeping, etc. It is a common error to consider the addition to the annual premium for payment in instalments as being all an interest charge. Thus, if a company computes

semiannual premiums by adding 3 per cent to the annual premium and dividing the result by 2, it is sometimes asserted that the company is charging interest at the rate of 12 per cent—because the insured pays \$3 extra for the privilege of delaying payment of \$50 (out of an annual premium of \$100) for 6 months. The fact is that only a small part of the total extra charge is for interest; most of it is for the additional expense of collection and accounting.

Formerly, practically all life-insurance policies provided that, where premiums were paid other than annually, any *fractional* premiums required to complete payment for the policy year current at death would be deducted from the proceeds of the policy. Most companies now waive this deduction where the policy calls for it, and most policies now issued do not contain such a provision. Frequently this adjustment was not understood by the beneficiary, who considered that the company was improperly charging for insurance after the death of the insured. Sometimes it is claimed that where premiums are paid annually, there should be a prorata refund of the “unearned premium” for the unexpired portion of the policy year current at death. However, if premiums have been calculated on an annual basis in the manner already described, the basic calculation assumes that a full annual premium will be paid for each year *entered upon*, and any refund of a part of the annual premium for the year of death is an additional benefit—equivalent to increasing the amount of insurance. This cannot be granted without additional cost. It is possible, as already mentioned, to calculate net premiums with allowance for such refunds. Although this introduces some practical complications in regard to both premiums and reserves, it seems not unlikely that it may become the general practice. A number of companies have already adopted this basis.

A Common Fallacy with Regard to Premium Rates. As stated in the previous chapter, it is very commonly supposed that, in calculating premium rates, life insurance companies make use of the “expectation of life,” or “average future lifetime,” assuming that, on the average, policies become payable at the end of the period of the expectation and that therefore the net premium

will be the amount which, at the rate of interest assumed, will accumulate the sum insured by the end of that period. Net premiums so calculated would be less than the correct premiums. For example, on the basis of the C.S.O. Table and $2\frac{1}{2}$ per cent interest, the ordinary-life rate at age twenty calculated by the "expectancy method" would be \$11.32 per \$1,000 instead of \$12.49, the correct amount; at age forty it would be \$23.04 instead of \$24.65; and at age sixty, \$56.73 instead of \$58.18. The reason for this is that the "expectancy method" involves the incorrect assumption that the total present value of all future death claims, assuming that all claims will be paid at the end of the period of the "expectation of life," is the same as the total present value based on the distribution of death claims by duration, according to the mortality table. This is not so. Payment of all death claims on the average date of death—as assumed by the use of the "expectation"—involves more loss of interest on later claims, as compared with payment in the actual years of death, than would be gained on claims where death occurred within the period of the "expectation." The "expectation of life" should *never* be used in connection with calculations involving compound interest. Results so obtained will be incorrect and misleading.

CHAPTER VI

THE RESERVE

It has been explained that, on the level-premium plan, a net premium is calculated which will be just sufficient, in the aggregate and under certain assumed conditions as to the rates of mortality and interest, to pay all death claims as they become due. The total net premiums paid each year are, for a time at least, greater than the amount of death claims, and a fund is thus created from the excess payments with interest thereon. The fund so formed from the accumulated excess payments is technically called the *reserve*. Without it, future premiums on the level-premium plan would be insufficient. Maintenance of this fund is a necessary part of the level-premium plan.¹

It should be particularly noted that the reserve is accumulated on the basis of the *assumed* (or "tabular") rates of mortality, not on the basis of the *actual* mortality experienced. If, as will usually be the case, the actual death claims are lower than those assumed and provided for in the net premium, the difference is a "gain from mortality" which will increase the company's surplus funds until distributed to the policyholders as dividends.

When a policyholder dies, the reserve in respect of his policy makes up part of the amount payable. Thus, the actual "insurance," or "risk," is constantly being reduced, and the cost of insurance each year on the level-premium plan is determined, not by the full sum insured, but by the *net amount at risk*, i.e., the difference between the full sum insured and the reserve. This principle of a reducing amount at risk, with correspondingly decreasing "insurance," is fundamental to the level-premium system and is the reason why it is practicable to furnish insurance

¹ The reserve is carried as a liability in the annual statement of a life insurance company since it represents an obligation of the company to its policyholders. The term "fund" does not refer to any specific allocation of assets to offset this particular liability.

for the whole of life without increasing the cost to a prohibitive amount at advanced ages. It should be clearly understood that, on the level-premium plan, a *policy* of \$1,000 does *not* give "insurance" of that amount. Failure to understand that fact has been responsible for criticisms of the level-premium plan involving the assertion that under that system the person insured forfeits the reserve at death. That is not the case.

On the assessment plan of life insurance, death claims are paid by a levy or assessment on all those who have been insured. On that basis no *reserve* funds are necessary if one assumes that the assessments will be paid. The "reserves" sometimes held by assessment associations are therefore really safety or guarantee funds. Life insurance companies pay death claims under policies on the 1-year-renewable-term plan out of current premiums, and the reserve at any time on such policies is therefore merely the proportionate part of the net premium for the unexpired period of risk. For insurance on the level-premium plan the amount to be held as reserve follows directly from the method by which the premiums were calculated.

The reserve may be explained from another point of view. When a policy is issued, the discounted, or present, value of all the net premiums is, as has been explained in the previous chapter, exactly equal to the discounted value of the benefit promised in the policy, *viz.*, payment of the sum insured at death. At any time after the date of issue, the value of the remaining net premiums will be less than at the date of issue, since fewer of them remain to be paid, while the value of the insurance has increased because the date of its payment has drawn nearer. The difference between the increased value of the insurance and the decreased value of the future net premiums must be represented by funds in hand; otherwise, the company will not be able to meet its liability. The difference, or fund in hand, is the reserve, and it can be demonstrated that the amount of the reserve obtained in this way is, as it should be, exactly the same as the amount obtained by the accumulative process.

There follows a numerical illustration of the method of calculation of the reserve on an ordinary-life policy by the *accumulative* process.

In this illustration we have, for simplicity, based the calculations on a relatively small number insured (1,000) and have taken the deaths each year to the nearest whole number. The amounts of the reserves thus arrived at are therefore not quite the same as would be obtained by a more exact calculation in which the numbers of assumed deaths each year would correspond *exactly* with the rates of mortality according to the table, *i.e.*, would be (for 1,000 or fewer lives) a whole number and a fraction—representing an *average* experience. The important thing for our present purpose is not the exact *amounts* of the reserves each year but the *method* of arriving at them.

On the basis of the C.S.O. Table with interest at $2\frac{1}{2}$ per cent, the net annual premium at age thirty-five for an ordinary-life policy of \$1,000 is \$20.50. If 1,000 such policies are issued, the accumulation of the reserve fund (on the simplified basis as to death claims stated above) for the first 3 years will be as follows:

First-year premiums, $(1,000 \times \$20.50)$	\$20,500
Interest thereon at $2\frac{1}{2}$ per cent	513
Total before paying death claims	\$21,013
Death claims $(1,000 \times 4.59)$ taken as	5,000
First-year reserve	\$16,013
Second-year premiums, $(995 \times \$20.50)$	20,398
Total fund beginning of second year	\$36,411
Interest thereon at $2\frac{1}{2}$ per cent	910
Total before paying death claims	\$37,321
Death claims (995×4.86) taken as	5,000
Second-year reserve	\$32,321
Third-year premiums $(990 \times \$20.50)$	20,295
Total fund beginning of third year	\$52,616
Interest thereon at $2\frac{1}{2}$ per cent	1,315
Total before paying death claims	\$53,931
Death claims (990×5.15) taken as	5,000
Third-year reserve	\$48,931

In an exact calculation the *number* of deaths in the first year would be assumed to be 4.59 (not 5) since that is the rate of mortality per thousand at age thirty-five, and the assumed *amount* of death claims would therefore be \$4,590 instead of \$5,000; the calculation would be similar for the second and third years. Also the number of survivors at the end of the first year paying a second premium would be 995.41 instead of 995, etc.

The above illustration shows that the total reserve is simply the accumulation, at the *assumed* rate of interest, of the total net premiums received less the *assumed* death claims payable.

At the end of the first year, for example, the total reserve is \$16,013. At that time there are 995 survivors so that the reserve on *each policy*, *i.e.*, the first-year reserve per \$1,000 of insurance, is $\$16,013 \div 995$, or \$16.09. Since the premium paid on each policy was \$20.50, upon which interest of about 51 cents was earned, the actual cost of insurance per \$1,000 in the first year was only \$4.92 (\$20.50 *plus* \$0.51 *less* \$16.09). It should be remembered, however, that this figure results from assuming death claims of \$5,000 instead of the theoretically correct amount, \$4,590, and is therefore slightly higher than the true cost of insurance on the bases of mortality and interest assumed.

In the same way, the reserve per \$1,000 of insurance at the end of the *second* year is $\$32,321 \div 990$, or \$32.65, and at the end of the *third* year, $\$48,931 \div 985$, or \$49.68. If the calculation were to be continued in a similar manner, until the last survivor dies at age ninety-nine (and of course, using exact, rather than approximate, figures), it would be found that the reserve per \$1,000, *i.e.*, per policy, would reach exactly \$1,000 in the final year.

While the reserve *per policy* can be arrived at in the manner just described, it is important to realize that such a figure has no real significance as applied to an individual policyholder but is merely an *average* or a *factor* applicable to a large number of policies or to a large amount of insurance. This will readily be understood from the fact that if a large group of policyholders were to be divided into two groups, one of which contained all the healthy lives and the other all the unhealthy lives, the *total* reserve could not simply be prorated between them since the death

rates in the two groups would be quite different. The prorated reserves would be more than sufficient for the healthy lives and less than sufficient for the unhealthy lives. It is still necessary for some purposes to consider the reserve for an individual policy as being the prorata part of the total reserve for all similar policies, thus ignoring possible differences in health and probable longevity. Further reference will be made to this question in later chapters.

This method of calculating reserves is sometimes called the *retrospective* method since the amount of the reserve is obtained by an *accumulative* process. The reserve per \$1,000 can also be arrived at, as already indicated, by a *prospective* method. Thus the reserve at any date must be equal to (1) the then present value of the insurance benefit, less (2) the then present value of the net premiums remaining to be paid.

As an example of this prospective method we shall calculate the third-year reserve on an ordinary-life policy for \$1,000 issued at age thirty-five which we have already found by the *retrospective* method to be (approximately) \$49.68.

At the end of the third year each policyholder will be thirty-eight years old. The "present value of the insurance benefit" at that time is simply the *net single premium* for whole-life insurance of \$1,000 at age thirty-eight, which, on the basis of the C.S.O. Table and $2\frac{1}{2}$ per cent interest, is \$483.87. The "present value" of the net premiums remaining to be paid will be obtained by multiplying the net premium of \$20.50 by the present value of a *life annuity* of \$1 per annum at age thirty-eight, which is \$21.16. The third-year reserve will therefore be:

Present value of insurance	\$483.87
Less present value of net premiums ($\$20.50 \times 21.16$) . . .	433.80
Difference = reserve	\$ 50.07

This figure (\$50.07) is 39 cents greater than the amount already obtained by the retrospective method (\$49.68) the difference being the amount of error resulting from the simplified method followed in making the latter calculation. Where both

calculations are made accurately the resulting reserves will be exactly the same.

Terminal, Initial, and Mean Reserves. The reserves, the calculation of which has been illustrated so far, are those which are on hand at the *end* of policy years, or *terminal* reserves. The amount on hand immediately after the net premiums for the next policy year have been paid is the *initial* reserve of that year. Thus the initial reserve of, say, the fifth year is equal to the terminal reserve of the fourth year increased by the net premiums payable at the beginning of the fifth year. Initial reserves in the illustration on page 116 are shown in the lines "total fund beginning of — year."

When a life insurance company makes up a statement of its financial condition on a stated date, the most important item among its liabilities is the aggregate amount of the reserves which it ought to have in hand at that date in respect of the policies in force. Policies are issued on all dates throughout the year so that at any given date there will be some policies which are just commencing a policy year, some which have just completed a policy year, and a great many more which will be somewhere between one policy anniversary and the next. For example, if a financial statement is made as of Dec. 31, a relatively small number of policies will, at that date, be exactly at the end of a policy year. It may be assumed, without any great error, that, on the average, all policies are at that date exactly halfway between two policy anniversaries. This involves the assumption that as many policies are effected in the first 6 months of the calendar year as in the last 6 months, which is not precisely the case, but the assumption is a convenient one and is amply accurate for practical purposes. The amount of the reserve at Dec. 31 will then be in each case the mean or average of the reserve at the beginning of the policy year current at Dec. 31 and the reserve at the end of that policy year, *i.e.*, the average of the initial reserve and the terminal reserve of the current policy year. The amount so ascertained is the *mean* reserve, which is used by life insurance companies in calculating the aggregate liability on all policies in force at the end of the financial year.

The terminal reserve is of use in determining the amount of the cash or other surrender value to be paid to a discontinuing policyholder where, as has usually been the case, the surrender value is based on the policy reserve.

In a later chapter it will be shown that the initial reserve is of importance in the calculation of dividends. It is sufficient for the present to say that usually an important element in the dividend paid on a participating policy is interest earned in excess of the rate assumed in calculating the premium. The amount upon which the excess interest is earned must therefore be ascertained for each policy; and since dividends are paid in respect of policy years, not calendar years, the amount upon which the excess interest is assumed to be earned in each case is usually the initial reserve.

The Net-level-premium Reserve as a Test of Solvency. The reserves calculated in the manner described above are the *net-level-premium reserves*. The calculations assume that the net premium, neither more nor less, is available each year, including the first year, for the purpose of paying current or future death claims and that the rates of mortality experienced and the rate of interest earned have been and will be in accordance with the assumptions made in calculating the net premiums. The loading, whether on past or future premiums, is not taken into account. A distinction must be observed between the net-level-premium reserve and the reserve which would actually be needed for solvency, taking into account *actual* conditions as to future mortality interest and expense.

Normally, the assumptions as to the rates of interest, mortality, and expense used in calculating the net-level-premium reserve are substantially less favorable than those actually expected. It is essential in such calculations that there be some margin of safety in the basic assumptions. Thus the reserves are normally greater than would actually be required to meet all future obligations on the basis of *realistic* assumptions.

In 1858 a law was passed in Massachusetts which empowered the Commissioner of Insurance to establish a minimum reserve standard. It was provided that no company which had not

sufficient assets to meet remaining liabilities after setting aside the total reserve on the basis stipulated by the Commissioner could continue in operation. The basis stipulated by the Commissioner was the net-level-premium reserve by the "Combined" or "Actuaries" Table of Mortality² with 4 per cent interest, and the effect was to establish that basis as a standard of solvency in Massachusetts. It should be noted that the law did not require net-level-premium reserves.³

The fact is that, while the net-level-premium plan provides a complete, scientific, and practical system of life insurance, a company which does not possess the full amount of the reserve on that basis is not necessarily insolvent. In any inquiry as to solvency, the *gross* premiums receivable must be taken into account; and if future expenses may be expected to be less than future loadings, as will usually be the case—in a mutual company at least—the company may well be solvent although it has not the full net-level-premium reserves. An important element, however, in determining solvency is the amount and extent of guaranteed cash-surrender values. Some companies provide for a cash value equal to the full reserve after only a very few years. In such a case the full net-level-premium reserve would be necessary for solvency in respect of a considerable portion of the company's business.

In other words, a test of solvency would take into account the actual assets, present and prospective, as well as the liabilities, and both should be valued on a "true" basis rather than an artificially conservative one such as is involved in the use of a low rate of interest and a high rate of mortality. Thus, if two companies have the same amount of business in force, dis-

² This table, sometimes also called the "Seventeen Offices Table," was based on the experience of 17 British companies and was published in 1843. The rates of mortality are not widely different from those of the American Experience Table.

³ As will be explained in the following chapter, it is practically impossible for a new company to set up reserves on the net-level-premium basis. This is because of the unequal incidence of expense as between the first and subsequent policy years.

tributed by amount, age, plan, and duration in the same way, the amount of the total reserve on a specified net-premium basis would be the same for each company. If the companies have equal assets while one company charges larger gross-premium rates than the other, the one receiving larger premiums is in a stronger financial position provided that its expenses and all other conditions are the same. Both companies might be insolvent according to the legal standard; but the former, on account of the additional loadings payable to it, might be solvent if it were allowed to take these extra loadings into account, and there is no good reason why, *in such a test*, it should not.

At the time when the Massachusetts law just mentioned was put into operation, conditions were very different from those now obtaining. Expenses, although necessarily greater in the first than in subsequent years, were more equally distributed over the whole duration of the policy, and there was more justification for the theory (involved in the system of net-level-premium reserves) that the loading would equal the expenses in all policy years, including the first. In fact, one of the evils corrected by the law was the practice of ignoring future expenses altogether in policy-reserve calculations and of assuming that the whole of the *gross* premiums of the future would be available for paying claims. This practice represented the opposite extreme to the rigid net-level-premium system, the assumption being that there would be no expenses at all in the future, whereas, by the net-level-premium system, the implicit assumption is that the *whole* of the loadings will always be required for expenses. The truth lies between these two assumptions. A true estimate of the actual liability of a life insurance company under its outstanding policies, made to determine its solvency (*i.e.*, its ability to meet all its contractual obligations), could be obtained only by the use of a "true" mortality table and a realistic rate of interest, in conjunction with the actual gross premiums payable less probable expenses—keeping in view also the amounts of guaranteed cash or other surrender values. Such a calculation is called a *gross-premium valuation*.

In practice, however, where no question of solvency is involved,

such a method of calculating the reserve liability as has just been explained would not be appropriate since it would mean that the company was computing its liabilities on a minimum rather than a safe basis. It is desirable, in ordinary circumstances, to make a more conservative estimate of the future. The net-level-premium plan, using conservative rates of mortality and interest, provides safety margins in respect of all the elements involved and is the basis most generally used. However, it takes no account of the actual incidence of expense and is therefore to some extent artificial. Other reserve systems have been devised with a view to making allowance for the practical fact that expenses are normally *greater* than the loading in the first year and less in later years, and such systems are widely used, chiefly by the younger and smaller companies in which new insurance is relatively large in relation to total insurance in force. These systems will be explained in the next chapter.

The "Cost of Insurance." The process by which the net-level-premium reserve is built up and the function which it performs will be made clearer by considering the operations of a particular policy year in the following manner: The net annual premium for an ordinary-life policy of \$1,000 at age thirty is \$17.22 (C.S.O. Table, $2\frac{1}{2}$ per cent). The reserve at the end of the tenth year (*i.e.*, at attained age forty) is \$151.55; at the end of the eleventh year, \$167.83.

In a large group of such policies some of those insured will die during the eleventh year. The reserve held on a policy "becoming a death claim," \$167.83, is insufficient, in itself, to pay the face amount of the policy. Therefore, each year a contribution must be made by *all* those insured (including those who die during the year) to make up the difference between the total amount payable under death claims and the reserves held on the policies becoming death claims. These reserves will no longer be required. They will pay part of the death claims payable in that year and are described as "reserves released by death."

The contribution which must be made by each of those insured in order to make up the full amount of the death claims payable is called the *cost of insurance*. In this particular case, the cost of

insurance for each policy, if paid at the beginning of the year, would be the net premium at age forty (beginning of the eleventh year) for 1-year term insurance of \$832.17 which is the difference between the "face amount" of \$1,000 and the eleventh year terminal reserve of \$167.83, *i.e.*, the *net amount at risk*. The 1-year-term net premium at age forty for insurance of \$832.17, calculated as described in the previous chapter, will be found to be \$5.03. This amount, however, is calculated on the assumption that it is paid at the *beginning* of the eleventh policy year whereas the death claims are assumed to be paid at the *end* of the year. The cost of insurance, to be paid by each person insured as of the *end* of the year, will therefore be \$5.03 plus 1 year's interest at $2\frac{1}{2}$ per cent, or \$5.16.

The process of accumulation during the eleventh year will be as follows:

Reserve, end of tenth year.	\$151.55
Add net premium	17.22
<hr/>	
Initial reserve, eleventh year.	\$168.77
Interest at $2\frac{1}{2}$ per cent.	4.22
<hr/>	
Total fund, end of eleventh year	\$172.99
Deduct cost of insurance	5.16
<hr/>	
Terminal reserve, eleventh year	\$167.83

If the policy is one of those which become death claims during the year, its terminal reserve (\$167.83) would then form part of the reserve released for payment of death claims, so that in its final year the policy itself would have contributed a total of \$172.99 toward payment of its own claim, that being its actual individual accumulation to the end of the year before death claims are paid. If the policy is still in force at the end of the year, \$5.16 is paid toward death claims in that year and only the balance of the actual accumulation of \$172.99, *viz.*, \$167.83, remains as reserve.

The foregoing paragraphs may be summarized by saying that the reserve at the end of any year, increased by the net premium

due immediately thereafter and by interest on the total, and decreased by the cost of insurance, equals the reserve at the end of the next year. This is a fundamental relation and one which should be carefully noted and remembered. In the case of paid-up, or fully paid, policies, where no further premiums are payable, the same relation holds good, except that the item "net premium" is omitted. In the case of such policies, the cost of insurance is met from the interest earned on the reserve. The amount of the reserve at age forty on each policy is \$502.64, and the reserve 1 year later is \$512.19. (These amounts are, of course, the *net single premiums* at ages forty and forty-one.) The cost of insurance is thus the 1-year-term rate at age forty for insurance of \$487.81 (\$1,000 less \$512.19) plus one year's interest at $2\frac{1}{2}$ per cent, which is \$3.02, and the accumulation of the reserve from the tenth to the eleventh year would be as follows:

Reserve, beginning of year	\$502.64
Interest at $2\frac{1}{2}$ per cent	12.57
	<hr/>
Total	\$515.21
Less cost of insurance	3.02
	<hr/>
Reserve, end of year	\$512.19

Effect on Reserves of Changes in the Assumed Rate of Interest.

The effect of using a lower assumed rate of interest in calculating the net premium and reserve is to increase both; the effect of using a higher rate of interest is to decrease them.

If it is assumed that a lower rate of interest will be realized in the future, larger net premiums will be required in order to provide the sums payable in death claims as they fall due, while, if a higher rate of interest is assumed, a smaller net premium will be sufficient. It might be thought from a consideration of the retrospective or accumulative method of calculating reserves that an increase in the rate of interest would result in increasing the reserve; but, as has just been stated, an increase in the rate of interest implies a lower net premium. The result of accumulating the lower net premium at the higher rate of interest is to produce

lower reserves. The difference between reserves on two different interest bases must ultimately decrease as the number of years in force increases since, whatever the rates of interest may be, the reserve must finally equal the amount of insurance when the limiting age of the mortality table, or the earlier maturity date of the policy, is reached.

The extent of the difference in reserves arising from a change in the rate of interest is illustrated in the following table, which shows the amount of the terminal reserve at $2\frac{1}{2}$ and at 3 per cent for various numbers of years in force in the case of an ordinary-life policy of \$1,000 issued at age twenty-five.

ORDINARY-LIFE POLICY FOR \$1,000. AGE TWENTY-FIVE. C.S.O. TABLE

Number of years in force (1)	$2\frac{1}{2}$ per cent reserve (2)	3 per cent reserve (3)	Difference as percentage of 3 per cent reserve • (4)
5	\$ 62.89	\$ 56.95	10
10	131.33	120.10	9
15	204.90	189.22	8
20	282.81	263.69	7
30	446.17	423.62	5
40	606.31	584.94	4
50	744.75	727.79	2
60	847.58	835.95	1
70	918.73	911.85	1

After 5 years the excess of the $2\frac{1}{2}$ per cent reserve over the 3 per cent reserve is 10 per cent of the latter; the excess has fallen to 7 per cent by the twentieth and to 4 per cent at the end of the fortieth year. Since both calculations are based on the same mortality table, the reserve on each basis will ultimately become the same at the limiting age of the table.

It is sufficient to remember the general effect of changing the

interest rate and to realize that where the contract has many years to run, as in the case of an ordinary-life policy taken at an early age, the effect of interest is more considerable, so that the difference will be greater in such circumstances. In policies which run for short periods, such as a 10-year term policy, the difference in reserve arising from a difference in the assumed interest rate would be small.

The foregoing paragraphs refer to individual policies. The effect of a change in the reserve rate of interest on the total reserves for a company's whole business will depend on the distribution of the existing policies by plan, age, and duration. For an average company with a normal distribution of business a reduction of $\frac{1}{2}$ per cent in the reserve rate of interest would mean an increase in the total reserve of about 5 per cent. In the United States it was not formerly customary to change the basis of reserves under existing contracts when a different basis was adopted for new policies. However, the extent of the reduction in interest rates in recent years has led many companies to change the reserve basis for policies issued in prior years.

Effect on Reserves of Changes in the Assumed Rate of Mortality. The effect on reserves of changing the mortality table while keeping the rate of interest the same cannot be explained so simply. The important thing to realize is that it is not necessarily true that a table which shows high rates of mortality will give higher reserves than a table which shows lower rates of mortality. The criterion for determining whether any particular mortality table will give reserves that are relatively high or low compared with those given by some other table is the relative *rapidity of increase in the rate of mortality as age increases*. As one table may show higher rates of mortality, as compared with another table, at certain ages and lower rates at other ages, it follows that reserves may be higher on a specified table for certain ages and durations but lower for other ages and durations. This is often the case. For example, a select mortality table shows rapidly increasing rates of mortality in the early years following entrance. Such a table, accordingly, shows higher reserves for short durations than a table where there is no such

rapid change in the mortality rate. In general, where the curve formed by charting the rate of mortality is *steeper* by one table than by another (even where the rate of mortality by the former table falls below that by the latter), reserves by the former table will be higher.

These principles are illustrated by the following figures, which show the reserve required in the early years for an ordinary-

ORDINARY-LIFE POLICY FOR \$1,000. AGE TWENTY-FIVE

Years in force	Rate of mortality per 1,000		Reserve	
	American Experience Table	Select Table	American Experience Table	Select Table
1	8.07	2.81	\$ 8.60	\$ 13.20
5	8.35	6.14	45.76	60.00
10	8.83	8.14	98.94	119.40

life policy of \$1,000 taken at age twenty-five, according to the American Experience Table⁴ and according to a certain select mortality table, each at 3 per cent. The rate of mortality in the American Experience Table is higher throughout than in the select table; in fact, almost three times as great in the first year.

The reserve at the end of the fifth year calculated on the basis of the American Experience Table is only about three-quarters of that produced by the use of the select table. This difference gradually diminishes with increasing duration and age in the same way as the difference in reserves arising from the use of different rates of interest. This may be understood in a general way by remembering that, in the case of the select table, fewer deaths occur in the early years and that while it is true that the

⁴ The American Experience Table is used in this illustration to emphasize the point that high rates of mortality do not necessarily mean high reserves.

premium required by the select table is smaller than by the American Experience Table, this difference is spread over the whole of life (or the whole duration of the policy), whereas the saving in claim payments is largely concentrated in the few years following issue.

A change in the rate of mortality may affect only certain ages or durations in the same direction, whereas a change in the interest rate operates in the same direction at all ages and durations. A consideration of these principles will make it clear that reserves by the C.S.O. Table will, in general, be greater than by the American Experience Table, since the modern tables show much lower rates of mortality at the lower ages and only slightly lower rates later, *i.e.*, a *more rapid increase* from the lower to the higher ages.

The effect on the *total reserves* of an average life insurance company of changing from the American Experience Table to the C.S.O. Table would be, generally speaking, much less than the effect of changing the interest rate by as little as $\frac{1}{2}$ per cent. As has been explained, a reduction in the interest rate of one-half of 1 per cent would increase the aggregate reserves of an average company by something like 5 per cent. The difference in total reserves as between any of the mortality tables which might be adopted (assuming no change in interest rate) would in most cases not be more than half of that. It is a common idea that the use of an old mortality table like the American Experience Table implies much larger reserves than are necessary. A more modern table will, in most cases, require a higher rather than a lower total reserve although the actual difference will not be likely to be, in the aggregate, more than 1 or 2 per cent.

Use of Modern Mortality Tables. The American Experience Table, although no longer representative of insurance experience (particularly at the lower ages), was continued in use by most companies over a very long period prior to 1948 when the C.S.O. Table came into general use. The question of the desirability of a general change to a more modern table was brought up on two occasions by the National Association of Insurance Commissioners (N.A.I.C.).

In 1911 the Association (then known as the National Conven-

tion of Insurance Commissioners) suggested that life insurance companies make a joint investigation of current mortality experience in order to obtain a mortality table which would reflect current experience more accurately than did the American Experience Table. It was presumed, correctly, that a new table would show lower net premiums, and many, no doubt, supposed that this implied also lower reserves. In response to that suggestion two new tables, known respectively as the American Men Table and the Canadian Men Table, were prepared and published in 1918. These tables, as was anticipated, showed lower net premiums than those based on the American Experience Table. Reserves by the new tables, however, were generally increased instead of diminished. The fact that these tables did not come into general use at the time of their publication was due principally to the following reasons: (1) The new tables were not, for some time, a permissible legal reserve standard in all states; (2) there was no strong sentiment in favor of a change which meant lower net premiums and higher reserves; (3) the adoption of the new tables would (under the then existing statutes) have involved higher nonforfeiture values; in particular, a very radical increase in the periods of extended term insurance at the lower ages and shorter durations.

So far as premium rates are concerned, it is not important in the case of a mutual company whether the net premiums are low or high, since the gross premiums are in any case always intended to be larger than is actually necessary. The actual cost to the insured in such a company is determined by the dividend scale and not by the gross premium. So far as mutual companies (issuing participating policies) were concerned, a change to the new table would not necessarily have resulted in lower premiums (although it would probably have done so since, at that time, there was no need—as there was later—to reduce the *interest assumption*) and would not have meant a lower actual *cost*. On the other hand, a reduction in gross premiums would have meant a lower margin of safety.

For nonparticipating policies it is necessary to use a reasonably “true” mortality table. Gross premiums charged for nonpartici-

pating policies are always based upon a modern or realistic table.

These reasons, which are all of a practical character, were sufficient to prevent any general adoption of the American Men and Canadian Men Tables as a basis for premiums and reserves.

In 1938 the Commissioners' Association again took up the question by appointing a Committee to Study the Need for a New Mortality Table and Related Topics. This committee was under the chairmanship of Alfred Guertin, actuary of the New Jersey State Insurance Department, and is usually called the Guertin Committee. The report of the committee, which was adopted by the Association in December, 1939, recommended the preparation and use for life-insurance purposes of a table based on more modern experience.⁵

The committee pointed out, however, that, because of the existing statutory requirements in regard to nonforfeiture values and the relationship of such values to reserves, and because of the consequences of enacting new reserve laws including provision for the use of a modern table without any modification of the nonforfeiture statutes, it was desirable, in fact essential, that the two subjects should be dealt with together. They recommended that a committee be appointed to consider the coordination of minimum reserve standards and minimum nonforfeiture requirements, and in accordance with this recommendation the Guertin Committee was reconstituted as a Committee to Study Nonforfeiture Benefits and Related Matters.

The report which this latter committee submitted proposed uniform legislation in all states through the enactment of a Standard Valuation Law and a Standard Nonforfeiture Law; supplied new modern mortality tables, *viz.*, the Commissioners' 1941 Standard Ordinary Table and the 1941 Standard Industrial Mortality Table (described in Chap. IV); and furnished (as part of the standard laws) a new minimum reserve system (the "Commissioners' Reserve Valuation Method") and a new basis for mini-

⁵ The reader is strongly recommended to study this report as well as the subsequent Report on Nonforfeiture Values. They are the best and most complete discussions of these subjects ever written and contain much information of value to the student of life insurance.

imum nonforfeiture values (the adjusted-premium method) which will be described in Chaps. VII and IX.

This report (after some changes had been made in the proposed standard laws, which were concurred in by the Guertin Committee) was adopted by the Association in June, 1942.

The Standard Valuation Law and the Standard Nonforfeiture Law have been enacted or otherwise made effective in all states. Their provisions are applicable, in general, to all policies issued since Dec. 31, 1947. Under the Standard Valuation Law, the *minimum* reserve basis for ordinary (as distinguished from industrial) policies is the C.S.O. Table with interest at $3\frac{1}{2}$ per cent (using the "Commissioners' method" of valuation). In New York the Standard Law was modified to require an interest assumption not higher than 3 per cent.

The specification in the law of the minimum reserve standard on the basis stated above does not mean, in itself, that a company *must* use the C.S.O. Table for calculating reserves. It means that, whatever table is used, the reserves must be at least as great as if calculated on the minimum standard basis. • However, the requirements of the Standard Nonforfeiture Law are such that it would be impracticable for a company to use any other table for reserves than the C.S.O. Table in the case of policies issued under these laws.

Thus the effect of the enactment of the standard laws has been to make the C.S.O. Table, instead of the American Experience Table, the universal reserve basis for all policies issued since about Jan. 1, 1948. For industrial insurance, similarly, the mortality basis is now the 1941 Standard Industrial Mortality Table.

Reserves on Individual Policies. It has already been pointed out that it is not correct to consider the total reserve of a life insurance company as capable of being divided, or "prorated" among the individual policyholders. It is only through the co-operation of large numbers of persons that life insurance is possible, since no one knows which of those who are insured will be the first to die. If an equitable apportionment of the total reserve fund were required to be made, as, for example, in event of the company's being liquidated, such an apportionment should,

strictly speaking, take into account the relative state of health of the various members and their consequent respective chances of survival. A policyholder in poor health would be equitably entitled to a relatively larger share of the aggregate reserve than one who was in good health, since the *value* of his contract, as measured by the relative chances of death, would be greater. Nevertheless, it is necessary, for certain practical purposes, to consider that the reserves of individual policies are the prorata shares of the total reserve. For example, in determining dividends, the reserve for an individual policy (upon which the "excess-interest" portion of the dividend is based) is considered to be the prorata share of the total reserve on all precisely similar policies which have been in force for the same length of time.

Also, as we shall see later, cash and other surrender values have been in the past, and to a considerable extent still are, based directly on the "individual" or "prorated" policy reserves and thus take no account of possible differences in health or probable longevity as between persons of the same age with identical policies.

General Considerations. The necessity for the possession by a life insurance company of large "policy reserves" will now be clear to the reader. The finances of each group of policyholders are worked out in the manner which has been illustrated. The net premiums accumulated in the manner shown are exactly sufficient to pay all claims as they fall due, leaving nothing over after the last death has occurred, although at all times a considerable fund remains on hand. In all companies, therefore, the amount of the policy reserve must be a very large part of the total assets since there are thousands of groups of policyholders at various ages with policies on different plans and in force for varying periods.

The word "reserve" in this connection is a misnomer or, at any rate, does not have the same meaning as is usually applied to it in the case of ordinary commercial undertakings where "reserve" is often synonymous with "surplus." The policy reserve of a life insurance company is not surplus. It is a *liability*. If the company does not maintain the proper reserve, it may be insolvent

and may eventually be unable to pay claims. The reserve is, in fact, the most important of a life insurance company's liabilities and may form as much as 80 or 90 per cent of the total liabilities of a long-established company.

Comparisons Based on the Reserve. The reserve *basis* (and particularly the interest assumption) is naturally one of the most important elements in determining the strength of a company.

A mere ratio of the *amount* of reserve to the *amount* of insurance in force is, however, almost certain to be misleading. In a young company the percentage of the reserve to the insurance in force must be much lower than in an old company, even if the *basis* is the same, since the majority of the policies in the former company are of short duration. The same situation exists as between two companies one of which is doing a relatively large new business and which will therefore have a lower average age and duration of its policies than the other company. A comparison, therefore, of the ratio of reserve to total insurance in force in two companies is no indication of their relative strengths or degrees of solvency. An old company with a comparatively high proportion of reserve to insurance in force might nevertheless be in a weaker financial condition than a young company with a low ratio of reserve to insurance in force, even where the reserve basis was the same. For example, its investments might be of poorer quality. A better measure of relative strength is the ratio of surplus funds to reserves; but the basis upon which the reserves are calculated, the character of the investments forming the reserve and surplus funds, and also the character of the management are the primary considerations. Nothing conclusive as to relative financial strength can be learned from a mere comparison of figures.

CHAPTER VII

MODIFIED RESERVE SYSTEMS

The underlying principle of all modified reserve systems is quite simple. It is that, since the loading is, in practice, not sufficient for expenses *in the first year* but is, in general, *more* than sufficient in other years, the reserve actually set up at the end of the first year may be reduced (thus recognizing that part of the first year's net premium will have to be used for expenses) *provided* that this reduction is offset by carrying into the reserve fund in other years a part of the loading *as well as* the full net premiums. It is evident that the reserve may be built up either by the accumulation of *level net premiums* or by the accumulation of a *smaller* net premium in the first year and *larger* net premiums in other years—provided, of course, that the latter series of net premiums is equal *in value* to the former. The difficulty that the loading contained in the first premium is usually insufficient to pay the necessary expenses connected with the issue of the policy, while in later years the loading may considerably exceed expenses, could, theoretically, be met by charging a higher premium in the first year than in subsequent years, the net premium being the same but the loading more. There are obvious practical objections to this solution of the difficulty. The practical method of meeting the situation is to regard the excess first-year expense (*i.e.*, the excess of expenses over loading) as a charge against renewal loadings.

It has been explained that when a policy is issued the net premium for the first year (with interest thereon) has two purposes: (1) to pay the cost of insurance in the first year; (2) to provide the first-year reserve. Thus, in the case of an ordinary-life policy for \$1,000 issued at age thirty-five we have (on the basis of the C.S.O. Table with $2\frac{1}{2}$ per cent interest):

Net premium.....	\$20.50
Interest thereon at $2\frac{1}{2}$ per cent....	0.51
Total.....	\$21.01
Cost of insurance.....	4.52
Balance = reserve	\$16.49

If the *gross* premium were \$25.63, the loading would be \$5.13; and unless the first-year expense were limited to that amount it would be necessary, in order to provide the first-year reserve of \$16.49, to draw funds from surplus. This "loan" would be repaid from the excess of *renewal* loadings over renewal expenses. In practice, the first-year expense would be considerably more than \$5.13, so that such a "loan" (from surplus to reserve) would be required. That is, in fact, exactly what takes place in regard to every policy issued upon which the full first-year reserve on the net-level-premium basis is set up.

It will make the situation clearer to consider a specific case. If we assume that the first-year expense amounts to 70 per cent of the first premium, the actual situation in regard to an ordinary-life policy of \$1,000 issued at age thirty-five at a gross premium of \$25.63 would be as follows:

Gross premium	\$25.63
Initial expense at 70 per cent	17.94
Balance.....	\$ 7.69
Interest at <i>actual</i> rate (say 3 per cent)....	0.24
Total.....	\$ 7.93
Actual cost of insurance at 50 per cent, say, of C.S.O. Table ¹	2.26
Balance.....	\$ 5.67
First-year reserve	16.49
Deficit drawn temporarily from surplus to establish net- level-premium reserve.....	\$10.82

¹ Because of medical examination, etc., the *actual* "cost of insurance" will be considerably below the *tabular* cost by the (ultimate) table in the first year.

As a matter of fact, the situation is worse than appears from these figures because, since a financial statement will be required at the following Dec. 31, the liability actually created as of that date is not the terminal reserve but the first-year *mean reserve*, which amounts to \$18.50. Allowing for the fact that before that time only a very small charge will have been incurred for first-year death claims, the effect of putting the policy on the books is to reduce surplus at the end of the *calendar* year by \$11 or \$12.

In strong and well-established companies there is not only a substantial surplus fund which can be used in this way as "working capital," but the amounts drawn from surplus in respect of previous years' issues are being repaid by deductions from the renewal loadings, so that the *net* strain on surplus from the expense of new business is not a serious matter. In a recently formed company which has a relatively small surplus fund, and in which new issues are a larger proportion of the total business, the situation is different. If it were necessary to set up as a liability the first-year mean reserve on the net-level-premium basis, such a company might be compelled to place a voluntary restriction on the amount of new business it would issue in any one year. However, the actual situation is that, while the company cannot limit expenses in the first year to the loading, it is equally true that the whole of the loading after the first year will not be required for expenses. There is no good reason why this entirely practical fact should not be taken into account and the accumulation of the reserve fund adjusted to correspond with the actual situation. In other words, there is no good reason why the company should not set up a smaller reserve at the end of the first year, making up the difference later by supplementing renewal net premiums by part of the renewal loadings. This is, in fact, what is done by many companies under the *preliminary-term* and *modified-preliminary-term* reserve systems. These systems are, within proper limitations, financially sound. They are merely modifications of the full net-level-premium system adapted to take account of the practical situation in regard to the incidence of expense. In all such systems a *lower* reserve is offset by a *higher* effective net premium after the first year, the

additional net premium coming out of what would be loading if the full reserve had been set up from the start. Under these reserve systems the reduction from the full net-level-premium reserve is, in effect, a loan (paid out of the first net premium) to help in paying first-year expense. This loan will gradually be liquidated out of renewal loadings. The time required to repay this loan and build up to the full level-premium reserve may be an arbitrary number of years, or the process may be spread over the whole of the premium-paying period, depending on the particular modification employed.

Full-preliminary-term System. In view of the fact that death claims will occur even in the first policy year, the part of the first-year net premium which can be used for expenses is limited to such an amount as will leave sufficient of the net premium to pay death claims occurring in that year. That is the *maximum* which could be used although such a maximum may not be necessary. If the maximum is taken, the first-year terminal reserve will be entirely extinguished, since *none* of the net premium will remain at the end of the policy year. Also, the amount which will have to be added to the reserve annually out of renewal loadings will be correspondingly high. In fact, the situation in that case is that, for the future, the company will require a net premium of the same amount as if the policy had been issued at the *end* of the first year at an age 1 year higher—since the entire first-year gross premium will have been spent on expenses and death claims. In effect, the company must, in that case, treat the policy, *as far as reserves are concerned*, as if it were *term* insurance for 1 year, followed by *life* insurance beginning at the end of the first year—hence the expression “preliminary term.”

The expression is an unfortunate one and is responsible for the idea that, where reserves are adjusted on this basis (or on one of the modifications of the full-preliminary-term system, described later), the first year's insurance is term insurance for which the company charges a premium higher than the usual 1-year-term rate. In fact, however, it is only the amount of the *reserve* which is affected. The policyholder has an ordinary-life (or other) policy for which he pays the ordinary-life premium, and

there is no good reason why cash values should not be just as high as where reserves are set up on the full net-level-premium basis, since *if the actual expenses are the same* the amount actually available for cash values will be the same irrespective of the reserve system employed.

While it is admitted that some part of the first-year net premium must be used for excess initial expense, it does not follow that it is either necessary or desirable in all cases to spend the limit, *i.e.*, all but enough of the first net premium to take care of first-year death claims. The amount of the first-year net premium used for expenses ought to be limited by two considerations: (1) the amount which the company really needs under existing conditions to pay for new business without extravagance; (2) the margin of renewal loading remaining after reducing the actual renewal loading by the amount necessary to liquidate the loan, *i.e.*, by the additional net renewal premium.

This will be made clear by a numerical illustration of the application of the full-preliminary-term system to two different kinds of insurance, ordinary life and 20-year endowment. Non-participating policies would be best for illustration, but since the majority of life-insurance policies are participating, it is desirable to consider the situation on that basis. The figures will first be set out in tabular form, using normal gross premium rates and adopting as a reserve basis the American Experience Table with interest at 3 per cent.

The American Experience Table is used for this illustration because, since the enactment of the Standard Valuation Law (and the general adoption of the C.S.O. Table), the full-preliminary-term-reserve system is not a permissible reserve basis for policies currently being issued. Where the system was used the mortality basis was practically always the American Experience Table.

In the tabulation given on page 140 it will be seen that in the first year, after setting aside \$8.68 to pay for death claims, there remain \$17.67 of the ordinary-life premium and \$41.07 of the 20-year endowment premium, all of which is used or available for expenses. If these amounts are actually spent, nothing what-

ILLUSTRATION OF THE OPERATION OF THE FULL-PRELIMINARY-TERM SYSTEM.
AMERICAN EXPERIENCE TABLE—3 PER CENT. AGE THIRTY-FIVE

	Ordinary life	20-year endowment
<i>First year:</i>		
(1) Gross premium per \$1,000	\$26.35	\$49.75
(2) Net premium (regular level-premium basis)	21.08	41.97
(3) Loading (regular level-premium basis) . .	\$ 5.27	\$ 7.78
(4) Net premium for 1-year term insurance . .	8.68	8.68
(5) (2) <i>less</i> (4) = "Loan" or "extra loading" in first year	12.40	33.29
(6) (3) <i>plus</i> (5) = Total available for first-year expenses.	17.67	41.07
(7) (6) as per cent of (1)	67%	83%
<i>After first year:</i>		
(8) Net premium required	21.74	44.51
(9) (1) <i>less</i> (8) = Effective renewal loading	4.61 ¹	5.24
(10) (8) <i>less</i> (2) = Additional net premium.	0.66	2.54

ever will remain at the end of the first policy year. On this basis, therefore, the terminal reserve at the end of the first year (all plans of insurance) is *zero*.

At the end of the calendar year of issue there will remain, on the average, one-half of the amount set aside for paying claims in the first policy year, *i.e.*, \$4.34, which is the first-year mean reserve on a 1-year term policy, and the reserve which the company will hold at Dec. 31 for each \$1,000 of insurance irrespective of plan or the amount of the gross premium received. By the end of the *policy* year this amount will have been exhausted and the reserve reduced to nil.¹

¹ Here, again, the *actual* mortality experience in the first year will undoubtedly be less than the *expected*, or *tabular*, mortality. The amount of the difference will be surplus. The basis upon which the reserve is calculated assumes that the company will experience the full tabular rate of mortality by the table used.

It has been stated that the first consideration in determining the propriety of the full-preliminary-term system is whether or not there is a real need to spend as much on first-year expense as that system provides. The figures given above show that for the ordinary-life policy illustrated the total amount available for first-year expenses is 67 per cent of the gross premium, which, under practical conditions, is not excessive. In the case of the endowment policy, however, the amount available is 83 per cent of the premium, which is too high. The actual percentage of first-year expenses to first-year premium on an endowment policy is—because of lower commission rates—lower, not higher, than for an ordinary-life policy. The first requirement, therefore, is satisfied in the case of the ordinary-life policy but not in the case of the endowment policy.

The second criterion of the propriety of the full-preliminary-term system is the *sufficiency of the renewal loading*. The illustrative figures show that the ordinary-life policy will require on the preliminary-term basis a renewal net premium of \$21.74, which is simply the regular net premium for an ordinary-life policy issued at age thirty-six, and, for the endowment, a renewal net premium of \$44.51, which is the regular net premium for a 19-year endowment policy issued at age thirty-six. These net premiums are necessary because, in each case, the entire amount of the first gross premium is presumed to have been spent. Since the actual gross premiums to be received in future will not be increased, the effect is to decrease the loading *available* for expenses. On the ordinary-life policy it is reduced by \$0.66; *i.e.*, from \$5.27 to \$4.61. On the endowment policy it is reduced by \$2.54, *i.e.*, from \$7.78 to \$5.24. These reduced loadings would be sufficient for renewal expenses. The illustrations, however, are based on participating policies, under which a substantial part of the loading is intended to be refunded as a "dividend." The effect will be to reduce the dividend and increase the net cost. While the reduction in the case of the ordinary-life policy is only about 12 per cent of the loading, on the endowment policy it is 33 per cent of the loading. Thus the effect of spending so much on expenses in the first year in the latter case is to cause

a reduction in effective renewal loading below the amount necessary to allow a reasonable net cost on a competitive basis.

The conclusion is that in the case of the ordinary-life policy the full-preliminary-term system is both justifiable and practical, while in the case of the endowment policy it is neither. A similar analysis could be applied to other forms of policies. In general, for low-premium policies, such as limited-payment life policies with long periods of premium payment and long-term endowments, both the criteria may be satisfied; while in the case of higher priced policies, such as short-term limited-payment life policies and endowments of the shorter durations, they will not be satisfied. There will, of course, be a borderline group of plans where the question of extravagance in initial expense or insufficiency of renewal loading under the full-preliminary-term system will be doubtful.

Very few states permitted the unrestricted application of the full-preliminary-term system to all kinds of policies issued prior to the enactment of the Standard Valuation Law. Clearly, the unrestricted use of the system is not to the interest of policyholders since it permits the company to pay excessive commissions in order to secure business on the higher priced plans. Any unnecessary expense will increase the cost of insurance over what it should be. Indeed, a company which used the full-preliminary-term plan for all classes of policies would naturally tend to have an unduly large proportion of its business on the higher priced plans, for which it is outbidding other companies by paying higher commissions. This would accentuate the weakness of its position in regard to renewal expenses and dividends. In extreme cases, such as very short term endowments, the renewal net premium necessary under the full-preliminary-term system might even exceed the full gross premium payable. Such policies contain a very high proportionate investment element in the premium, and it is quite improper to use a large part of the first year's net premium for expenses.

Under the full-preliminary-term system, reserve accumulation starts 1 year late, and the full reserve on the level-premium basis is not reached until all premiums have been paid. In the case

of an ordinary-life policy the full net-level-premium reserve is not reached until the insured attains the limiting age of the mortality table. The whole premium-paying period is required to make up the lost ground. This means a larger net amount at risk and consequently a higher cost of insurance than on the regular net-level-premium basis. The increased net premium provides for the additional cost of insurance and accretion of reserve. The following table illustrates comparative reserves on the two bases:

COMPARISON OF RESERVES ON THE NET-LEVEL-PREMIUM PLAN AND THE FULL-PRELIMINARY-TERM PLAN. AMERICAN EXPERIENCE TABLE,
3 PER CENT. AGE THIRTY-FIVE. FACE AMOUNT \$1,000
(Reserves taken to near dollar)

Years in force	Ordinary life		20-payment life		20-year endowment		10-year endowment	
	N.L.P.	F.P.T.	N.L.P.	F.P.T.	N.L.P.	F.P.T.	N.L.P.	F.P.T.
1	\$ 13	\$ —	\$ 22	\$ —	\$ 35	\$ —	\$ 84	\$ —
2	26	13	45	24	70	37	171	95
3	40	27	68	48	108	76	261	193
4	54	41	92	73	146	115	355	296
5	68	56	118	99	186	157	452	402
10	146	135	256	242	407	386	1,000	1,000
15	233	223	418	411	674	662		
20	328	319	610	610	1,000	1,000		
30	523	517	723	723				

The distinguishing features of the full-preliminary-term system can be seen from the above table. In all cases the reserve at the end of the first year is nil. This establishes a "deficit" as compared with the full net-level-premium reserve, the amount of which depends upon the type of policy. In the case of the ordinary-life policy the full reserve is not attained until extreme old age, but the difference is small and is being reduced every

year. Where premiums are limited, the full reserve is made up when all premiums have been paid. This means a more rapid reduction for a short premium-paying period than for a long one, although the initial difference is larger where the number of premiums payable is smaller. The table also illustrates the strain on renewal loadings, *i.e.*, the reduction in *effective* renewal loadings available for renewal expenses. Thus, in the case of the 10-year endowment policy, the increase in reserve in the early years is seen to be about \$10 a year more than on the net-level-premium basis, while the cost of insurance also is higher because of the greater net amount at risk.

It will be clear from the foregoing paragraphs that the unrestricted application of the full-preliminary-term plan is not only unnecessary but wrong, permitting extravagance in paying for new business and therefore improperly increasing the cost of insurance to the policyholder. The full-preliminary-term system has been discussed at some length, not because of its practical importance, which is now very slight, but because this discussion will help the reader to understand the much more important *modified-preliminary-term* reserve systems.

Modified-preliminary-term Systems. The considerations just discussed gave rise in many states to legal limitations on the use of the full-preliminary-term system. Where such legal restrictions have been adopted, the application of the full-preliminary-term system was limited to certain forms of policies, while for other policies a rule was set up by which the company must retain and place in the reserve fund a *part* of the first-year net premium. The general principle is that, while the first-year loading is, under all forms of policy, admittedly insufficient for first-year expense, the part of the first-year net premium which is to be "borrowed" should be limited to what is reasonable and necessary.

Such a limited application of the full-preliminary-term system is called a *modified-preliminary-term* plan. The expression implies (1) full preliminary term, with *no* first-year terminal reserve, for certain low-premium forms only; (2) a *partial* first-year terminal reserve on other forms; and (3) full net-level-

premium reserve under all plans when all premiums called for by the contract have been paid or, under certain modifications, at an earlier date. The expression "modified preliminary term" does not refer to *one* specific basis of accumulating reserves but is the description of a group of reserve systems, the same in principle but differing in detail.

The principal modified-preliminary-term system in use in this country for policies issued prior to the enactment of the Standard Valuation Law was the *Illinois Standard*. For policies issued after the effective date (in each state) of the standard law a new and uniform method of modified-preliminary-term valuation is specified in the statement of the *minimum* legal standard for reserves. The new method is the *Commissioners' Reserve Valuation Method*. It differs only slightly from the Illinois Standard method. We shall therefore first explain the Illinois Standard method and shall thereafter explain the relatively unimportant differences between that method and the Commissioners' Reserve Valuation Method.

Illinois Standard. The Illinois Standard method permits full-preliminary-term reserves only in the case of policies for which the *premium charged* is not greater than the premium for a 20-payment life policy. For other policies a reserve calculated on the basis described in the law must be established at the end of the first policy year.

The section of the Illinois law (applicable to policies issued prior to the enactment of the Standard Valuation Law) which deals with this subject is as follows:

If the premium charged for the first policy year under a limited payment life preliminary term policy providing for the payment of all premiums thereon in less than twenty years from the date of the policy or under an endowment preliminary term policy, exceeds that charged for the first policy year under twenty payment life preliminary term policies of the same company, the reserve thereon at the end of any year, including the first, shall not be less than the reserve on a twenty payment life preliminary term policy issued in the same year at the same age, together with an amount which shall be equivalent to the accumulation of a net level premium sufficient to provide for a pure endowment at the

end of the premium-payment period, equal to the difference between the value at the end of such period of such a twenty payment life preliminary term policy and the full net level premium reserve at such time of such a limited payment life or endowment policy. The premium-payment period is the period during which premiums are concurrently payable under such twenty payment life preliminary term policy and such limited payment life or endowment policy.

It will be noted that the law refers, not to the *net* premium, but to the "premium charged" as the premium which determines whether the limitation applies; but for this purpose it is usual to assume that, where the net premium for a specified policy exceeds the net premium for a 20-payment life policy, the gross premium (the "premium charged") for the same policy will exceed the gross premium for a 20-payment life policy, although that is not necessarily the case. A literal interpretation of the law would mean that different companies were affected differently according to their gross-premium scales.

The meaning of the above-quoted section of the Illinois law will best be made clear by a numerical illustration.

In this illustration we shall again assume that the mortality basis is the American Experience Table since that table was used in connection with practically all insurance issued on the Illinois Standard reserve basis.

We shall take, for example, a 20-year endowment policy, issued at age thirty-five. On the basis of the American Experience Table at 3 per cent, the net premium is \$41.97. This exceeds the net premium for a 20-payment life policy, which is \$29.85. Hence the limitation on the use of full-preliminary-term applies. The "premium-payment period" is, in each case, 20 years. The reserve for the 20-year endowment policy must therefore be (at least)

1. The reserve for a 20-payment life policy on the full-preliminary-term basis, *plus*
2. The reserve for a 20-year pure endowment² of the differ-

² A *pure endowment* is a contract which provides for payment of the face amount *only* if the holder of the contract is living at the end of the endowment period. Such contracts are rarely issued.

ence between the full reserve at the end of 20 years for the 20-year endowment policy (*i.e.*, in this case, the face amount) and the twentieth-year reserve on the preliminary-term basis for a 20-payment life policy as in 1.

In the tenth year, for example, part 1 above is the ninth-year reserve for a 19-payment life policy issued at age thirty-six, which is \$242.28. For part 2,

Twentieth-year reserve on 20-year endowment policy	...	\$1,000.00
Twentieth-year reserve on 20-payment life policy	609.92
		<hr/>
"Face amount" of pure endowment		\$ 390.08

The pure-endowment net premium required to accumulate \$390.08 in 20 years is \$12.12, and the accumulation of this latter premium in 10 years is \$151.67.³

Hence the Illinois Standard reserve for the tenth year is $\$242.28 + \$151.67 = \$393.95$. The reserve at the maturity date is $\$609.92$ (19-payment life reserve for policy issued at age thirty-six) $+ \$390.08 = \$1,000$.

Where premiums are payable for less than 20 years, the full reserve must be made up by the end of the premium-payment period. Thus, in the case of a 15-payment life policy, for example, the reserve consists of part 1 as above plus the reserve on a 15-year pure endowment of the difference between the fifteenth-year full reserve for a 15-payment life policy and the fifteenth-year reserve on the full-preliminary-term basis for a 20-payment life policy, as in part 1.

Where premiums are payable for longer than 20 years (and where the premium exceeds the 20-payment life premium), the full reserve must be made up in 20 years in accordance with the last sentence in the paragraph quoted from the law. Thus, in the case of a 25-year endowment policy (except for ages at issue so high that the premium would be *less* than for a 20-payment life policy), the Illinois Standard reserve equals the full net-level-premium reserve at and after the end of 20 years (since

³ These figures are the result of actuarial calculations which may be accepted by the reader as correct.

that is the time during which premiums are *concurrently* payable with those on a 20-payment life policy), the pure endowment in that case being for the difference in reserve at the end of 20, not 25, years.

The important point is that, on the Illinois Standard system, a *reserve* is required at the end of the first policy year for all policies carrying a premium rate higher than that for a 20-payment life policy. That reserve is the accumulation for 1 year of the first premium for a pure endowment of sufficient amount to make up the full reserve at the end of the twentieth year, or at the end of the premium-payment period, if sooner. The first-year reserve thus depends on the kind of policy and becomes greater as the premium payable increases.

The practical effect of using the Illinois Standard system, as far as the company is concerned, is to regulate (1) the amount of the first-year net premium which can be used for expenses and (2) the amount of the reserve. The amount available for first-year expense (without drawing on surplus) will be the gross premium less the sum of (1) the net premium for 1-year term insurance and (2) the net premium for the amount of pure endowment required to make up the full reserve in the required period. Under the full-preliminary-term plan the entire difference between the gross premium and the 1-year net term premium is available on *all* policies, while on the full net-level-premium basis only the actual loading is available so that the additional first-year expense must be drawn from surplus. The following table shows examples of the amounts of first-year expense allowances in addition to the loading (net-level-premium basis) for various plans of insurance on the full-preliminary-term basis and on the Illinois Standard basis. In every case the Illinois Standard system allows first-year expenses of a reasonable amount in view of actual conditions, while the necessary increase in the effective renewal net premium is not such as to deplete renewal loadings to a dangerous extent, as is the case under the full-preliminary-term plan for high-priced forms.

A comparison of reserves for some of the plans of insurance subject to the Illinois modification with the full net-level-pre-

ADDITIONAL FIRST-YEAR EXPENSE ALLOWANCES. AMERICAN EXPERIENCE
TABLE, 3 PER CENT. AGE THIRTY-FIVE. FACE AMOUNT \$1,000

Plan	Full P.T.	Illinois Standard M.P.T.
	(a)	(b)
Ordinary life	\$12.40	\$12.40
20-payment life	21.16	21.16
15-payment life	27.65	20.81
10-payment life	41.04	20.09
20-year endowment	33.28	21.16
15-year endowment	48.73	20.81
10-year endowment	80.61	20.09

(a) Net premium for policy less 1-year term net premium.

(b) Net premium for policy less sum of 1-year term net, and pure endowment net premium.

mium reserves and reserves by the full-preliminary-term plan is given in the table on page 150.

The Illinois Standard reserves lie between the two others until the end of the twentieth year or until earlier completion of premium payments. On some plans (endowments for more than 20 years) the net premium is greater than that for a 20-payment life policy at the lower ages and less at the higher ages. For those ages at which it is less, the Illinois Standard reserve throughout the entire premium-paying period of the policy is the same as the reserve on the full-preliminary-term plan. For example, in the case of a 30-year endowment policy, net premiums (American Experience Table at 3 per cent) for ages at issue over twenty-eight are less than for a 20-payment life policy, but at ages twenty-eight and under they are greater. Consequently, full-preliminary-term reserves are permissible on the Illinois Standard basis for policies issued at ages over twenty-eight, but modified-preliminary-term reserves are necessary for policies issued at ages up to twenty-eight.

COMPARATIVE RESERVES, AMERICAN EXPERIENCE TABLE, 3 PER CENT. AGE
THIRTY-FIVE. FACE AMOUNT \$1,000

Kind of policy	Years in force	Reserve according to		
		Full net- level-pre- mium plan	Full-pre- liminary- term plan	Illinois Standard M.P.T.
Ten-payment life.	1	\$ 42.65	\$ ———	\$ 21.78
	2	86.85	48.25	67.96
	3	132.66	98.26	115.83
	4	180.15	150.11	165.45
	5	229.38	203.88	216.90
	10	504.59	504.59	504.59
Twenty-year endowment. . . .	1	\$ 34.59	\$ ———	\$ 12.59
	2	70.40	37.10	49.22
	3	107.50	75.53	87.16
	4	145.91	115.32	126.45
	5	185.71	156.53	167.15
	10	407.45	386.22	393.95
	15	674.00	662.32	666.57
	20	1,000.00	1,000.00	1,000.00
Twenty-five-year endowment .	1	\$ 25.46	\$ ———	\$ 3.46
	2	51.78	27.01	30.60
	3	79.01	54.95	58.68
	4	107.16	83.84	87.70
	5	136.27	113.71	117.72
	10	297.51	279.15	284.00
	15	488.66	475.30	481.23
	20	717.22	709.84	717.22
	25	1,000.00	1,000.00	1,000.00

So far as a company's *entire reserve* is concerned, the difference between the full net-level-premium reserve and the reserve in accordance with the Illinois Standard will depend on the relative proportion of recently issued policies, and the proportions of different kinds of policies. In the case of an established company

doing a normal business (as to distribution by age and plan), the Illinois Standard reserve (total) might be about 95 per cent of the regular net-level-premium reserve. In a young company or where new business is relatively large, the difference between the *total* reserves on the two bases may be much greater.

Commissioners' Reserve Valuation Method. The Commissioners' Reserve Valuation Method is identical with the Illinois Standard method, with certain relatively minor exceptions. It is defined in Section 4 of the Standard Valuation Law. The definition in the law is in very technical language so that it would be inappropriate, as well as unnecessary, to quote it here. The complexity of the language used to define the method arises, in part, from the desire to avoid such expressions as "preliminary term" which are likely to convey the misleading implication that, where this reserve system is used, "the first year's insurance is term insurance."

By adopting this method in connection with the minimum standard for reserves (C.S.O. Table with interest at $3\frac{1}{2}$ per cent) the law recognized: (1) that, because of the relatively high rate of expense in the first policy year, some modification of the full net-level-premium-reserve system may be a practical necessity for some companies—particularly, young companies with small surplus funds and a relatively high proportion of new or recent business to total business; (2) that, with suitable limitations, such a modified reserve system is financially sound; and (3) that the Illinois Standard system is, in general, a practical and satisfactory modification of the full net-level-premium basis for reserves.

Enactment of the Standard Law now also provides a *uniform* basis for modified reserves, replacing, for new policies, the Illinois Standard and the other different modifications enacted by other states, which are briefly described later.

The minor difference between the Commissioners' method and the Illinois Standard method referred to above is intended to eliminate the inconsistency of the latter method as applied to certain plans under which the net premium at the lower ages

at issue is greater than the net premium for a 20-payment life policy, but is less at the higher ages. On the Illinois Standard method, full net-level-premium reserves are required at the end of 20 years for the younger ages at issue on such plans while full-preliminary-term reserves are permitted for the older ages at issue. For such plans the Commissioners' method does not require the full net-level-premium reserve until the end of the premium-paying period. The difference will be seen more clearly from a specific example.

In the case of a 25-year endowment policy (assuming that the premium basis is the C.S.O. Table with interest at $2\frac{1}{2}$ per cent) the net premiums up to age thirty-nine are greater than for a 20-payment life policy, and thereafter less. On the Illinois Standard basis, therefore, the full net-level-premium reserve would have to be reached by the twentieth year for policies issued at ages up to thirty-nine but not until the twenty-fifth year for policies issued at age forty or over. Under the Commissioners' method the full net-level-premium reserve is not reached until the end of 25 years in either case.

The following table illustrates the effect of this difference in the case of a 25-year endowment policy issued at age thirty-five and shows also the reserves on the full net-level-premium basis and on the full-preliminary-term basis.

RESERVES PER \$1,000. 25-YEAR ENDOWMENT. AGE THIRTY-FIVE.
C.S.O. TABLE, $2\frac{1}{2}$ PER CENT

Years in force	Net-level premium	Full pre- liminary term	Illinois Standard	Commis- sioners' method
1	\$ 29.47	\$ 0.00	\$ 2.88	\$ 2.62
2	59.56	31.00	34.06	33.55
5	153.73	128.03	131.66	130.32
20	736.44	728.43	736.44	729.15
25	1,000.00	1,000.00	1,000.00	1,000.00

It will be noticed that *in such cases* the Commissioners' method reserves are slightly lower than the Illinois Standard reserves. Thus, in a company with a normal distribution of business by plans and ages, the *total* reserve on the Commissioners' basis will be slightly less than by the Illinois Standard method—assuming, of course, that the mortality table and interest rate are the same in each case.

OTHER MODIFIED RESERVE SYSTEMS

Ohio Standard. The general principle involved in the Ohio Standard modified-preliminary-term system (effective as to policies issued prior to the passage of the Standard Law) is the same as under the Illinois Standard. In the case of the Ohio Standard a modification (of full preliminary term) is required for limited-payment life and endowment policies providing for less than 20-year premiums. Thus, the Ohio rule allows full-preliminary-term reserves for all endowment policies with premiums payable for 20 years or more, whereas the Illinois rule would allow such reserves only where the premium is not more than the premium for a 20-payment life policy. On the other hand, where the modification applies, the reserves by the Ohio rule are higher than by the Illinois rule, because the pure-endowment element of the reserve is higher, being based on the excess of the full net-level-premium reserve over the *ordinary-life* full-preliminary-term reserve instead of the 20-payment-life full-preliminary-term reserve, as under the Illinois rule.

New Jersey. The former law of New Jersey illustrates a different principle under which, while the full net-level-premium reserve was not required in the earlier years, it had to be established within a comparatively short specified period. Under that law a period of 7 years was allowed in which to reach the full reserve. At the end of the first year the reserve required to be held on any policy was the full net-level-premium reserve for the policy *less* the excess of the full reserve on an *ordinary-life* policy over the reserve for a 1-year term policy. Thus, at the end of the first policy year no reserve was required for an ordinary-life policy, while on other plans the *reduction* allowed

from the full reserve was the same, irrespective of plan or number of premiums payable. In all cases the initial "deficit," or difference, was reduced by prorata annual amounts until, at the end of the seventh year, the full net-level-premium reserve was required. The New Jersey law was later changed to permit reserves based on the Illinois Standard with some special modifications which need not be described.

Canada. The Canadian Insurance Act of 1910 provided a method similar to that laid down by the former New Jersey law. It allowed a reduction from the full net-level-premium reserve in the first year under all policies but required that the full reserve be reached by the *fifth* year through equal annual reductions of the difference. The initial reduction in reserve, *i.e.*, the additional expense allowance (over the loading) in the first year, was thus, as in the New Jersey system, the same for all plans of insurance, being the difference between the net premium for an ordinary-life policy and that for a 1-year term policy. In 1927 the Canadian law was altered, and the law now permits the full-preliminary-term system for ordinary-life policies. For policies having a higher premium than the ordinary-life premium, the law allows a reduction in reserve during the premium-paying period. In the first year the reduction is the same in amount as for an ordinary-life policy. In making provision for initial expense this rule is therefore less liberal than the Illinois Standard rule.

The Select and Ultimate Plan. The *select and ultimate* plan was devised by M. M. Dawson, who was the consulting actuary to the investigating committee in the legislative inquiry into the life-insurance business in New York in 1905. It was embodied in the revision of the New York Insurance Law which followed that investigation. A few other states made provision in their laws for the use of this plan under certain conditions as to minimum aggregate reserves.

The underlying principle of the select and ultimate plan is entirely different from that involved in the full-preliminary-term or modified-preliminary-term plan. In order to understand this

method it is necessary to remember that the American Experience Table, which had served as a basis for the premium rates of the majority of American insurance companies and for nearly all reserve calculations, is an ultimate table, *i.e.*, the rates of mortality which it shows are those to be expected after the effect of medical and other selection has disappeared. The net premiums by that table are therefore more than sufficient to pay for *actual* death claims, which are very much less than as shown by the table during the first few years of insurance because of the initial selection.

The select and ultimate method gives recognition to the fact that a premium based on the *ultimate* table is received, whereas the rate of mortality experienced is that indicated by the *select* table. On this basis reserves are reduced (below the full net-level-premium reserves) for a period of 5 years, and an additional expense allowance is thus provided, the amount of which depends on the assumed mortality savings by selection. After 5 years the reserves are the same as by the net-level-premium system.

The select and ultimate method is now of very little importance except historically. Very few companies use or have used it. In general, from a practical standpoint, the reductions in first-year reserves which it permits are not sufficient to provide an adequate allowance for additional first-year expense.

In considering these different modified reserve systems the important thing to remember is that they were all devised to meet the purely practical difficulty that first-year expense substantially exceeds first-year loadings. They all recognize that a company should be permitted to accumulate the necessary reserves with due allowance for this fact and provided proper provision is made for building up to the full net-level-premium reserve. The reader will understand, from the description of the method of calculating the net premium in a previous chapter, that the *full* amount of *all* net premiums is required for death claims and reserves. Consequently if the reserve established at the end of the first year is less than the first-year net premium *plus* interest *less* the first-year "cost of insurance," the difference

must be made up out of subsequent premiums, *i.e.*, out of renewal loadings.

Modified Reserve Systems in Relation to Established Companies. The modified methods of setting up reserves which have been described above are, in general, not used by the larger companies. For recently organized companies modified reserve systems are essential since it is an impossibility for such companies to create, out of the premiums received, the reserve funds required by the full net-level-premium-reserve system and, at the same time, to pay the actual cost of insurance and the expenses which must be paid in order to maintain or increase the insurance in force through an adequate volume of new business and to accumulate an adequate surplus fund.

It is, of course, true in the case of any company that the whole of the first year's reserve on the full basis cannot be provided out of the first year's premium. As has already been pointed out, it is possible for an established company, nevertheless, to operate on the net-level-premium-reserve plan, drawing on surplus funds to meet the deficiency. The actual strain is only the net difference between the additional expense for new policies and the repayments out of renewal loadings on prior years' issues. These, in time, will tend to offset one another. It is evident, however, that any unusual increase in new business will tend to deplete the surplus. Indeed, it would be possible, theoretically at least, for a company to issue so much new business that the excess initial expenses would use up all available surplus funds. Thus the use of the net-level-premium-reserve system in conjunction with actual conditions as to the incidence of expense is, to some extent, artificial, and it may be asked whether, if a modified reserve plan which makes allowance for the actual incidence of expense may properly be used by a recently established company, it is not equally appropriate for any company. Such plans, with proper limitations, are undoubtedly sound financially and are more realistic than the net-level-premium system.

Recent changes to which reference has been made have involved the use of (1) a modern mortality table and (2) a lower interest rate. Both these changes mean higher reserves, par-

ticularly in the earlier policy years, and, in general, also higher nonforfeiture values. The result of such changes in the reserve basis, where the full net-level-premium reserve is set up, is thus materially to increase the *strain on surplus* from new business and correspondingly to reduce the funds available for dividends in the earlier years on recent issues—unless the *gross* premium rates are substantially increased. The adoption of a modified reserve system would reduce this strain and would permit somewhat lower gross premiums than might otherwise be considered necessary.

It would be entirely sound, logical, and realistic for even a large, strong, and well-established company to adopt the Commissioners' method of valuation for new policies issued on the basis of the C.S.O. Table and a low interest assumption. Practically none of the larger companies have done so. Such a change by a well-established company, involving a lowering of reserve standards, is capable of being misunderstood and might even be regarded by the public, although quite unjustly, as an indication of some underlying weakness. In spite of the practical advantages of such a step, therefore, and since the larger companies, because of their substantial surplus funds and large volume of renewal business, are well able to finance new business on the full net-level-premium-reserve plan, that plan has been continued by practically all such companies.

CHAPTER VIII

DIVIDENDS

Surplus. In the operation of an insurance company the various assumptions involved in the premium calculations are not exactly realized. Because of the conservative view of the future generally adopted in the calculation of premium rates for participating policies, the actual conditions experienced usually prove to be more favorable than those assumed. Owing to medical selection and the general trend toward lower mortality rates, deaths do not take place at so high a rate as is indicated in an ultimate mortality table based on past experience. Surplus funds, therefore, result from *saving in mortality*. The rate of interest realized on investments is usually greater than that assumed, and consequently the funds of the company are further increased by *excess interest*. Again, the loadings may be more than sufficient to provide for expenses and contingencies, so that a *saving from loading* results.

Surplus may also arise from *capital gains*. These may result either from *writing up* (increasing) the book value of an asset or from the *sale* of an asset for more than the value at which it is currently being carried on the company's books—the "book value."

Losses (decreasing surplus) may, of course, also be incurred at times from any of the above-mentioned sources. Thus the actual mortality may exceed that "expected" as it did in some companies during the influenza epidemic of 1918. The rate of interest earned may be less than that assumed as was the case in many companies in the middle 1940's. Expenses may exceed loadings, and capital losses may be incurred by the necessity of writing down the book value of an asset or from its sale at less than book value.

The surplus funds may also be increased in other ways. Thus

if the amount paid as a surrender value, in cash or in the form of extended insurance or paid-up insurance, is less than the amount of the reserve held against a policy at the date of lapse, surplus will be increased. Such a "profit" frequently represents, in whole or in part, money returned to surplus which was originally taken from it in order to establish the reserve (as was explained in Chap. VII). It is, to that extent, not a true profit. Nevertheless, the reserve is released, and the excess over the amount allowed as a surrender value increases the surplus as of that date.

It will be seen, therefore, that under practical conditions the actual assets arising from the accumulation of premiums, less expenses and claims, will differ from the amount of the reserves required, and that normally a surplus will result.

When a company makes up a financial statement, the surplus may appear in one or more of three classifications: (1) funds not representing actual liabilities but held for special purposes, such as for fluctuation of security values or as a *dividend fluctuation fund*; (2) funds set aside for the purpose of paying dividends in the ensuing or in future years; (3) unassigned funds not specifically " earmarked " but available for any purpose and to meet any contingency. The first and third of these items may be considered as the *net* surplus and the total of the three items as the *gross* surplus. The surplus which has arisen during the past year from the various sources mentioned above may, in the case of a mutual company, be distributed to the policyholders as *dividends*¹ (either in the ensuing year or in future years), or it may be added to the general contingency or other special surplus funds, or a part of it may be returned to the policyholders and a part added to the special funds. Under certain circumstances it might be decided not only to return as dividends the whole of such surplus which had arisen during the year but to increase the dividends by adding something from the existing

¹ The word "dividend" is to some extent a misnomer, the "dividend" on a participating policy being rather in the nature of a refund and not a return on an investment as the term is generally used in commercial transactions.

unassigned funds. This might be done, for example, in order to maintain the company's dividend scale in a year when, from some accidental cause, the surplus earnings had temporarily been reduced.

An important question following each year's operations in a mutual company is how much of the total surplus (previously existing surplus plus earnings of the year) should be retained as contingency or other special funds and how much should be distributed to the policyholders. The amount of the general contingency fund which should be retained for safety is a matter of opinion. It should be ample to meet any contingency which might be considered reasonably possible, but the fund should not be unduly large, for surplus earnings would thus be unnecessarily withheld from policyholders and the cost of insurance unnecessarily increased.

In New York the amount of surplus which may be maintained is limited by law. This law was one of the results of the insurance investigation of 1905 (the Armstrong investigation) and was largely due to the former practice of showing deferred-dividend funds as surplus instead of as a liability. The insurance laws which were passed in New York shortly after the investigation limited the amount of the contingency fund to 5 per cent of the policy reserve in the case of the largest companies. Larger percentages were permitted for smaller companies since they are to a greater extent subject to fluctuations of various kinds.

This limit was subsequently increased on two occasions and is now fixed at 10 per cent of the policy reserve (or \$500,000 if greater).²

A contingency fund is required chiefly to provide for (1) abnormal mortality losses such as from wars or epidemics and (2) investment losses and fluctuations in the values of investments. It is also needed to provide for sustained adverse experience in regard to any of the basic assumptions involved in the premium

² The limitation does not apply to companies doing exclusively a non-participating business.

rates. Experience has amply shown the need, in all these respects, for an adequate contingency fund, and it may be doubted whether a statutory limit as low as 10 per cent of reserves is sound.

One consequence of placing such a low legal limit on surplus funds is to make it undesirable, or even dangerous, for a company to invest more than a small proportion of its total funds in such investments as stocks which are subject to wide fluctuations in market value. As explained in a later chapter, the law requires that, in making up a financial statement, stocks must be entered in the balance sheet at their *market* values. If these values happened to be abnormally low (as in 1929, following the stock-market collapse) a company which had a substantial investment in stocks would find its surplus seriously depleted. Even under less extreme conditions the surplus, under these circumstances, would be liable to undesirably large fluctuations from year to year.

Distribution of Surplus. The question as to how much of the surplus should be distributed to the policyholders as dividends is entirely a matter of business judgment and involves considerations which are somewhat beyond the scope of this book. The amount to be distributed as dividends in any year will not necessarily or usually be the actual surplus earnings of the previous year. When current surplus earnings are not quite sufficient to maintain the scale of dividends, they may, if it is thought desirable, be supplemented by drawing on the existing surplus. In the same way, when surplus earnings are high, part of the current year's earnings may be added to surplus. When fluctuations in surplus earnings are relatively small, this is a practical system of avoiding frequent small changes in the dividend scale. However, under abnormal conditions or where there is a definite trend in surplus earnings—either up or down—experience and judgment are needed to determine what amount of surplus should be divided among the policyholders and what amount kept in reserve against contingencies.

For present purposes it will be supposed that the amount of the surplus earnings available for distribution among the policy-

holders as dividends, or, as it is sometimes called, the *divisible surplus*, has been determined, and there will be considered certain principles upon the basis of which the distribution of this divisible surplus to individual policyholders should be carried out.

The distribution of surplus among policyholders need not, in theory at any rate, be made annually. Many years ago such distribution was always made at intervals greater than 1 year—usually 3 or 5 years. In this country, however, most states now require that surplus distribution shall be made annually.

In Canada a considerable proportion of the policies issued provide for distribution of surplus quinquennially although in some companies annual dividends are the rule. Policies may be issued with distribution periods longer than 5 years; but the surplus under such contracts must be *apportioned* at least once in every 5 years, and the surplus so apportioned is a liability of the company until actually distributed. In practice, most companies credit surplus to quinquennial policies annually and hold such amount as a contingent liability. In Great Britain annual distribution is still the exception. Many British companies divide surplus only once in every 5 years. The principal reason for a less frequent distribution is that the amount of the surplus arising or available in successive years may fluctuate considerably, and therefore an annual distribution might result in considerable changes in the dividend scale as between one year and another. The use of 5-year periods smooths out the fluctuations of individual years. A company may, for example, have a very favorable mortality experience one year and an unfavorable one the next. However, there is not, under normal circumstances, sufficient fluctuation of this kind to require a period longer than a year between surplus distributions, except possibly in very small companies. In any case, companies do not divide surplus up to the last dollar but retain a relatively substantial contingency fund, which may be increased or decreased in good or bad years. In fact, as noted above, some companies specifically set aside a part of their contingency fund as a dividend fluctuation fund. The dividend scales of most companies do not as a rule fluctuate widely as between one year and another. If, for

one reason or another, very large profits which are not expected to continue are made in a particular year, it is not necessary or usual greatly to increase the amount allotted as dividends. Some increase may be made in such circumstances, but a considerable part of any such unusual profit is ordinarily placed, temporarily at least, in surplus. On the other hand, if the surplus earnings are lower than usual, it may be necessary to decrease dividends; but if such reduction is merely an accidental fluctuation, the diminished surplus earnings may be supplemented from the existing surplus or contingency fund and the dividend scale maintained.

Basis of Allotment. The determination of the shares of individual policies in the divisible surplus is a complex matter, and the distribution, if it is to be equitable, cannot be made by any simple or arbitrary rule. It would not be correct, for example, to distribute the whole divisible surplus in proportion to the premium paid or in proportion to the sum insured or in proportion to the reserve.

If the surplus were to be divided in proportion to the premium paid during the year, special treatment would have to be accorded to fully paid policies which have contributed a share of the surplus earnings. As regards premium-paying policies, such a rule would mean that a policy upon which the premium is \$100 would receive twice as much as a policy upon which the premium is \$50. This might be quite inequitable. For example, the former policy might be a 10-year endowment policy of small face amount and with a very small amount at risk, and the latter an ordinary-life or term policy of much larger face amount and with a large amount at risk. If a large part of the surplus earnings arose (as is usually the case) from favorable mortality experience, the latter policy should get, as a dividend, more, and not less, of such surplus than the former.

Again, if the surplus were to be divided simply in proportion to the sum insured, the holder of a policy which had been many years in force would receive the same share of surplus as the holder of a policy of the same amount taken out a year ago. This would again result in a very inequitable distribution if a

considerable part of the divisible surplus had arisen from excess interest earnings or investment profits. Such profits should evidently be divided more nearly in proportion to the reserves upon which interest is earned and which form the invested funds of the company. A greater share of such profits belongs, generally speaking, to those policyholders whose policies have been a long time in force and against which the company is holding large reserves.

Nor would it be correct to divide the surplus simply in proportion to the reserves of individual policies. This method would give a very large share to a fully paid policy, especially if on the life of a person of advanced age, as compared with the amount allotted to a recently effected policy subject to premium payments. If the surplus had been earned in part either from a favorable mortality experience or from an excess of loading over expenses, this method would be inequitable since profit from mortality is greatest at the lower ages and depends on the net amount at risk (which is high in a recently issued policy), while profit from loading is nonexistent in the case of a paid-up or fully paid policy.

The conclusion to which one is led by these considerations is that the total amount of divisible surplus should be divided into parts according to the *sources* from which it has arisen and that the actual distribution should follow some plan under which the surplus arising from each source is returned as equitably as possible to those who have contributed it. The mutual system of life insurance involves the payment of premiums somewhat larger than are considered to be actually necessary with the understanding that the actual cost will be equitably adjusted by dividends. Under practical conditions it is not possible to refund the excess payments of individual policyholders with exactitude, nor is it necessary to do so. In such matters, as in other respects, policies cannot be considered individually but must be dealt with on the basis of groups or classes, and the system of computing refunds or dividends should be one which aims at approximate equity within such groups or classes of policies. It is important that

the system of surplus distribution should take into account the principal sources of surplus so far as practicable and should not be simplified to the extent of causing injustice to any group of policyholders. The various systems of dividend distribution which are based on an analysis of surplus earnings according to the different sources from which they have arisen are known collectively as the *contribution plan*. This system, in one or another of its modifications, is used by practically all companies in this country.

The Contribution Plan. The general basis of the contribution plan of surplus distribution will best be made clear by considering again the process by which the amount of the reserve, or fund on hand, at the beginning of a policy year changes to the amount of the reserve, or fund on hand, at the end of the year. In the case of any policy and in respect of any policy year (the year elapsing between one policy anniversary and the next) the following relation exists: ³

Reserve Jan. 1 *plus* net premium *plus* interest on both at the assumed rate *less* tabular cost of insurance = reserve Dec. 31 (A)

This relation, which has been demonstrated in a previous chapter,⁴ shows the process of the normal increase in the reserve from year to year. In the equation, all the factors involved—net premium, reserve, interest, and mortality—are in accordance with the basis of calculation adopted. The interest and mortality rates are the *assumed* rates, not those which have actually been experienced, while no account is taken of expenses since the *assumption* is that expenses are exactly equal to loadings.

The equation may be rewritten, substituting the actual experience of the policy year in question for the theoretical or assumed experience, and would then be as follows:

Reserve Jan. 1 *plus* gross premium *less* actual expenses *plus* actual interest earned *less* actual cost of insurance = fund on hand Dec. 31 (B)

³ For convenience the policy year is here supposed to coincide with the calendar year, but this will not necessarily or usually be the case.

⁴ See p. 124.

If equations (A) and (B) are compared, it will be seen that, in so far as the current year's operations are concerned, the difference between the actual fund on hand in respect of the policy in question (when viewed as an individual transaction) at the end of the year and the amount of the reserve required for it at that time represents the amount of surplus accumulated during the year and that this surplus (exclusive of any miscellaneous profits, as from lapses, surrenders, or sales of assets) arises from three sources corresponding to the three fundamental elements in the calculation of the gross premium. It consists in part of the loading less the actual expenses, in part of the interest earned in excess of the interest required to maintain the reserve fund according to the original rate assumed, and in part of the difference between the amount of the necessary contribution to death claims and the amount of the contribution that was expected to be required according to the mortality table. Any other sources of profit or loss, which do not specifically arise from the three fundamental assumptions (as to interest, mortality, and expense) are, for the present, ignored.

Three-factor System. If there were no other sources of profit or loss, the dividend on an individual policy would thus simply be the sum of the profits from loading,⁵ from interest, and from mortality. The dividend arrived at in this way will therefore depend on plan of insurance, age at issue, and duration of policy. Most companies now prepare their dividend schedules in this form. This system is known as the *three-factor contribution plan*.

Although surplus may arise and losses may be sustained from sources other than the three mentioned in the preceding paragraph, such additional factors are, for practical reasons, not normally accorded *separate* treatment. It is undesirable unduly to complicate the method, or *formula*, of calculation of dividends or to introduce too great refinements which, when applied to individual policies, would be of little significance or importance.

⁵ In the case of fully paid policies not subject to premium payments there would, of course, be no profit from loading

Miscellaneous profits from investments, for example, may be regarded for dividend purposes as similar in nature to the profit from excess interest. Again, the greater part of the increase in surplus from surrenders and lapses arises from recently issued policies. Such "profits" may properly be treated as an offset against the heavy initial expenses which have been incurred in connection with such policies since they represent, largely or entirely, a repayment to surplus of money previously drawn from surplus to make up the reserve. The three-factor contribution plan recognizes but three sources of surplus, and the whole amount to be divided must consequently be divided into three parts which are, for distribution purposes, considered as being the result, respectively, of saving in expenses, of excess interest, and of saving in mortality.

Up to this point we have been speaking of a policy providing only for *life insurance*. If the policy includes additional forms of insurance such as benefits in event of total-and-permanent disability or in event of accidental death ("double indemnity"), there are corresponding additional elements in the premium rate and there will be corresponding additional factors in the dividend formula—provided that the trend of experience and the amounts involved are such as to justify or require separate recognition. In recent years the profits or losses on both these "special-benefit" features, in some companies, have been such as to call for additional factors in the dividend formula—either positive or negative. It will be observed that, theoretically at least, any factor may be positive, negative, or zero and that the number of factors in the contribution dividend formulas should be the same as the number of "factors" or "assumptions" involved in the premium rate.

For present purposes there will be considered only policies providing for life insurance and involving only a normal three-factor formula. The amount of the aggregate divisible surplus having been determined, the next step is to apportion the shares of individual policies, in other words, to construct a complete dividend schedule for all classes of policies, for each age at issue, and for each duration.

It might seem that a simple method of procedure to obtain the shares of individual policies in the first part of the total divisible surplus, that which has resulted from the excess of loadings over expenses, would be to compare the total amount of such profits available for distribution with the total amount of loading received from all premium-paying policies and to return to each holder of such a policy the same proportion of the loading contained in his premium as the total saving from that source bore to the total loading. Thus, if the total divisible profit from loadings were 25 per cent of the total loadings, each holder of a premium-paying policy might be allotted, as the first part of his dividend, 25 per cent of the loading in the premium paid by him. The second part of the total divisible surplus, profit from excess interest earnings, could be dealt with on similar principles. Thus the surplus which was the result of excess interest might be compared with the invested funds of the company to ascertain the rate of *excess interest* earned, and this rate might then be applied to individual policy reserves in order to ascertain the second part of the dividend of each policy. The *initial reserve* of the policy year is generally used for this purpose since this is the amount assumed to be under investment during the whole policy year in respect of each policy. The remainder, or third part, of the total divisible surplus is that which has been produced by favorable mortality experience, and this might be compared with the total net *expected* mortality according to the table, i.e., the aggregate amount of the *tabular cost of insurance*. In this way a percentage would be obtained showing the proportion of the expected mortality cost saved, and the third part of each dividend, that attributable to favorable mortality experience, would then be the same percentage of the individual tabular cost of insurance.

In practice, however, it is desirable to introduce a somewhat greater degree of refinement in determining the elements of loading and mortality than is indicated in the foregoing paragraph. Because of the commission payable and other first-year expenses, no saving from loading is usually made in the first year. The proper treatment, for dividend purposes, of the special expenses of the first year is a matter in regard to which there is some dif-

ference of opinion. One view is that the additional expense of new as compared with old business may properly be regarded as an expense of the company *as a whole* since new business is necessary if the company is to continue in operation as a "going concern." Also, if the larger mortality savings of the first year, due to the effect of medical and other selection, are not allotted entirely to new entrants but are offset against excess initial expense, it follows that the whole of such expense should not be deducted in calculating the first-year contribution to surplus. Some allowance for the different rate of expense on new business should, however, be made. Again, the method suggested above (a uniform percentage of loading for *all* policies) would be unfair because the rate of expense is not the same proportion of the loading for all plans and at all ages. In view of such considerations, a more logical method of distributing savings from loading is to assess an appropriate *expense charge* against each policy and to deduct this expense charge from the loading. This is the usual method. The expense charge is generally computed partly as a percentage of premium and partly as a *constant* per \$1,000 of insurance. Many different methods of computing expense charges are used, and in nearly all cases the formula provides for a reduction in the expense charge as the duration increases.

The distribution of mortality profit should take *attained age* into account since the difference between the expected and the actual mortality experience depends on attained age, being generally greater at the lower than at the higher attained ages.

For the distribution of mortality savings a scale of percentages of the tabular (expected) cost of insurance *decreasing* with attained age and reflecting the company's actual mortality experience age by age as compared with the table is usually adopted. Such a scale will approximately reproduce the total amount of mortality profit available for distribution. As a rule the mortality factor is not made to depend on duration since entry (as well as attained age), the usual view being that the saving arising directly from medical examination may properly be offset against the excess expenses in the early years.

The three-factor system, carried out in this way, is a practical

method of surplus distribution which, assuming each factor to correspond reasonably closely to actual experience, yields results as equitable as can be attained.

In order to bring out some of the practical features of the three-factor contribution plan we shall now illustrate the actual amounts of surplus which would, under certain assumed conditions, be allotted to policies on different plans, issued at different ages, and in force for different periods.

Interest Factor. The interest factor is the simplest element of the dividend, consisting of *excess interest* (difference between the rate of interest earned and the rate assumed) on, usually, the initial reserve for the policy year at the end of which the dividend is payable.

If it is assumed that the basis upon which net premiums and reserves have been calculated is the C.S.O. Table with interest at $2\frac{1}{2}$ per cent, Table A shows the amounts of excess interest, *i.e.*, the *interest factor* of the dividend, on the assumption that the net rate of interest actually earned (or, rather, the rate used in dividend calculations, which is not always exactly the same as the rate earned) was 3 per cent.

The rate of excess interest is thus $\frac{1}{2}$ per cent, and the figures in the table are, therefore, $\frac{1}{2}$ per cent of the respective initial reserves according to plan, age, and number of years in force.

It will be seen from Table A that the interest element of the dividend, while at first small, becomes larger as the duration increases; also, that this part of the dividend is more important where the policy contains a large investment element.

The effect on dividends of an increase or a reduction in the net rate of interest can be seen from this table. Thus if the dividend interest rate were $3\frac{1}{2}$ instead of 3 per cent, the excess interest rate would be increased from $\frac{1}{2}$ to 1 per cent, so that the interest factor of the dividend would be doubled in every case. This would make a material difference in the dividends at long durations. The reader should note particularly that it is the *excess* rate with which we are concerned, so that a relatively small change in the *total* rate may cause a substantial change in the dividend. Thus a reduction in the total rate from 3 to $2\frac{3}{4}$ per

TABLE A. DIVIDENDS PER \$1,000 FROM EXCESS INTEREST EARNINGS OF
 $\frac{1}{2}$ PER CENT
 (Basis: C.S.O. Table, $2\frac{1}{2}$ per cent)

Number of years in force	Ordinary life, age at issue		20-payment life, age at issue		20-year endowment, age at issue	
	25	55	25	55	25	55
5	\$0.32	\$0.82	\$0.58	\$0.99	\$1.00	\$1.08
10	0.66	1.54	1.21	1.93	2.12	2.14
15	1.02	2.21	1.91	2.94	3.40	3.33
20	1.41	2.81	2.71	4.16	4.88	4.88

cent, *i.e.*, a reduction of one-twelfth of the total rate, means a reduction of 50 per cent in the dividend-interest factor, which would then be $\frac{1}{4}$ instead of $\frac{1}{2}$ per cent.

The substantial fall in the net rates of interest earned, which took place during the late 1930's and early 1940's, resulted in a marked reduction in dividends in most companies. Prior to about 1930 a great deal of participating insurance had been issued on the basis of an interest assumption of $3\frac{1}{2}$ or 4 per cent (rates which were for many years well below those actually being earned). This was true, more particularly, of older policies. During the 1920's the companies were earning interest rates of about $4\frac{1}{2}$ to 5 per cent so that these older policies, with high reserves, had been earning very substantial "interest dividends" even on the basis of an assumed rate of $3\frac{1}{2}$ or 4 per cent. In many cases, the reduction in interest earnings which took place completely wiped out the interest factor of the dividend on such policies and even, in some companies, on policies based on a 3 per cent interest assumption.

Where the rate of interest earned is actually *less* than that assumed, the contribution method calls, theoretically at least, for a *negative* interest factor, *i.e.*, a *deduction* from the total of the mortality and loading factors. Such a deduction has actually

been made by some companies. If that is done, the effect is that (unless and until the earned interest rate increases) the dividends on a particular policy will decrease rapidly each year because the negative factor will increase as the reserve increases. This reduction will be accentuated if the interest rate continues to fall. Such a situation is extremely undesirable especially since many policyholders will not understand it. As a practical matter, therefore, the company may take the view that an actual deficiency in interest earnings may be considered as a charge against the general contingency fund. In other words the "required interest" is made up by drawing on surplus and "negative factors" are eliminated from the individual dividends.

Mortality Factor. The mortality factor of the dividend in the three-factor contribution formula is, as already indicated, normally a percentage of the "tabular cost of insurance," *i.e.*, of the contribution to the current year's death claims which would be required if the actual rates of mortality experienced were those of the mortality table used for premiums and reserves.

The percentage for any particular policy generally depends on the attained age of the policyholder and reflects the company's experience among all policyholders of that age. This is because, in general, the percentage of saving in mortality decreases with age. It is also usual to base the percentages on the *ultimate* mortality experience, *i.e.*, to eliminate the experience under policies which have been less than 5 years in force. The *extra* mortality saving under recently issued policies is, thus, not usually reflected in their dividends but is treated as a repayment of the *extra* expense of the first year.

Table B illustrates in a general way the *relative* extent of the mortality factors in the dividends on different kinds of policies, issued at different ages and in force for different periods. The scale of percentages of the "cost of insurance" used in arriving at the figures in this table provides for 25 per cent of the tabular cost at attained age twenty-five, the percentage decreasing by $\frac{1}{2}$ for each increase of 1 year in age until a minimum of 5 per cent is reached for attained ages sixty-five or higher. This is a purely illustrative scale (to show *relative* mortality factors) but is not

out of line as a measure of approximate current experience as compared with the C.S.O. mortality assumed.

TABLE B. DIVIDENDS PER \$1,000 FROM MORTALITY SAVING OF 25 PER CENT AT AGE TWENTY-FIVE DIMINISHING TO 5 PER CENT AT AGE SIXTY-FIVE AND OVER
(Basis: C.S.O. Table, 2½ per cent)

Number of years in force	Ordinary life, age at issue		20-payment life, age at issue		20-year endowment, age at issue	
	25	55	25	55	25	55
5	\$0.73	\$1.68	\$0.69	\$1.61	\$0.62	\$1.57
10	0.77	1.43	0.67	1.26	0.51	1.17
15	0.83	1.58	0.64	1.15	0.32	0.92
20	0.89	1.89	0.56	0.65	0.00	0.00

It will be noted from Table B that the mortality factor of the dividend is quite different in its nature from the interest factor, tending either to be roughly constant in amount or to *decrease* as the policy duration increases and being, in general, less for "high-priced" policies, such as limited-payment life policies or endowments, than for "low-priced" policies such as ordinary life or term. The tendency of the mortality factor to decrease by duration is due to (1) the fact that the "cost of insurance" depends on the net amount at risk which decreases each year; and (2) the fact that a decreasing percentage of the cost of insurance is generally used to determine the mortality factors at successive attained ages. This tendency for the mortality factor to decrease (on any given dividend scale) will be much more marked in the case of such policies as endowments, under which the reserve increases more rapidly and the amount of risk correspondingly decreases rapidly.

It may be noted that, although the amount at risk decreases, the cost of insurance does not necessarily decrease. At the higher

attained ages the annual increase in the rate of mortality is such that for some types of policies, such as ordinary-life, or paid-up life insurance, where the annual reduction in the amount at risk is relatively small, the cost of insurance (and the mortality factor of the dividend) may, as shown in Table B, for ordinary-life policies, increase as between one year and the next. This will depend, of course, largely upon the scale of percentages of the cost of insurance adopted in the dividend scale.

Loading Factor. The loading factor of the dividend consists of the loading less an expense charge. The expense charge is usually in the form of "a percentage and a constant," i.e., a percentage of the premium and a constant of so many dollars and cents per \$1,000 of face amount. The constant may be varied according to plan of insurance in order to allow for differences in the average amount of policy by plan. As previously explained, it would not be practicable to vary the loading or the expense charge in the dividend scale by the amount of the individual policy although, theoretically, that would be desirable. The percentage element of the expense charge is usually on a decreasing basis, at least for the first few years, so as to reflect the lower expenses after the first 2 or 3 years. The loading factor in the dividend would, in that case, show a corresponding increase with duration.

In view of the rather wide differences between companies in gross premiums for participating policies, and the differences in the amounts of loading, as well as because of the many different ways in which the expense charge is computed, it is not practical to illustrate the loading factor numerically—as has been done for the interest and mortality factors. In companies with relatively high gross premiums the *amount* of the loading factor will normally be much higher than in a company with a relatively low gross premium scale. Any figures which might be shown could not be representative and would have limited significance. The general characteristic of the loading factor is that (on any particular "scale" or "formula") it increases, usually quite sharply, for the first few years and thereafter either continues to increase slowly or remains constant.

Normal Increase with Duration. The foregoing discussion indicates that under a typical three-factor contribution dividend scale one of the three dividend factors (interest) increases with the duration of the policy, another (mortality) decreases, and the third (loading) normally is either constant or shows a small and gradual increase. The successive dividends on a particular policy by a particular dividend scale, therefore, do not *necessarily* increase. Until comparatively recently, interest rates earned were such that the annual increase in the interest factor was generally more than sufficient to offset the decreasing mortality factor, and the result was, for all classes of policies, a *normal increase with duration*, where the same dividend scale remained in operation. The drastic reduction in the interest rate during recent years has changed this situation, so far as policies formerly issued (with higher interest assumptions than those now made) are concerned, greatly reducing this "normal" increase with duration or even, for certain classes of policies, eliminating it. For example, in the case of a 10-year endowment, the amount at risk, and therefore the mortality factor in the dividend, decreases very rapidly. Unless there is a large enough excess-interest factor to offset this decrease, the net result may be a decrease in dividend with increasing duration.

In the majority of cases, however, even if there is only a small excess-interest factor, the dividend scale under the contribution plan will show for most of the principal plans dividends which increase with duration. This *normal* increase due to increasing duration must be distinguished from an increase in the *scale* itself. Theoretically the dividend scale would be changed every year—unless all experience factors remained exactly the same—but for practical reasons it is undesirable and unnecessary to make frequent and unimportant changes in the dividend formula. The *trend* of interest, mortality, and expense is followed, and when conditions justify it, a revision of the scale will be made which may result in an increase or a decrease of the dividend in any particular case as compared with what it would have been if the scale had not been altered. One or more of the factors, according to circumstances, may be changed, and the net results in

individual cases will depend on the age, plan of insurance, and duration. A change in formula may result in a decreased dividend for some policies and an increased dividend for others. Thus, if the interest factor is decreased and the mortality factor increased—by a change in the scale—term policies will get larger dividends and endowment policies may get lower dividends, at least at longer durations.

The Experience-premium Method. The *experience-premium* method of computing dividends is a modification of the contribution plan. Its purpose is to eliminate decreases in dividends on any plan even with a very low or zero excess-interest factor.

Under this system the company calculates a complete set of "experience premiums," for all plans and ages at issue, based on a *realistic* mortality assumption and containing provisions for the *actual* expenses expected to be incurred, but using the same conservative interest assumption as in the premiums actually payable.

These experience premiums are, of course, lower than the premiums payable. The difference represents the *level* dividend which could be paid each year, over the whole life of the policy, from mortality and loading gains, *provided* future experience as to mortality and expense corresponded with the assumptions made in calculating the experience premiums. The annual dividends payable under this system consist of (1) the excess of the premium payable over the corresponding experience premium for the same plan and age at issue, *plus* (2) an excess-interest factor calculated in the same way as under the regular contribution plan.

The theoretical objection to this system is that it does not distribute the combined gains from mortality and loading *as earned* (which would usually mean an annual decrease in that part of the total dividend) but *levels out* all such gains on the basis of an assumed future experience. Thus, less mortality gain is included in the earlier dividends and more in the later dividends than if a regular contribution formula had been used, while the reverse is true as to the gain from loading. Future experience (as to mortality and expense), also, is unlikely to agree for any long period

with any predetermined assumptions. Periodically, therefore, new experience premiums will have to be calculated reflecting any material change in the actual rates of mortality and expense.

This method is clearly less "scientific" and less "accurate" than the unmodified contribution plan. It must be remembered, however, that "accuracy" and "equity" in the distribution of surplus are, from a practical standpoint, ideals which are largely unattainable. Even under the contribution plan the dividends allotted to any particular class of policies can be only an approximation to the "true" contributions to surplus from that class. For example, the mortality experience of the whole company is assumed to apply to small classes of policies, while it is impossible to allocate expenses accurately to individual policies or classes of policies.

These considerations, in conjunction with the practical advantages of the system and the serious difficulties experienced with the unmodified contribution plan in a period of low and decreasing interest rates have led a number of companies to adopt the experience-premium method of computing dividends.

Dividend for the First Policy Year. Sometimes payment of a dividend at the end of the first year is made contingent upon continuation of the policy in force, while frequently no dividend at all is allotted until the end of the second policy year. These are merely different ways of meeting the practical condition that, because of high initial expense and the necessity of establishing the first-year reserve, a policy does not *of itself*, i.e., as a result of its own receipts and payments, produce any surplus in the first year. From that point of view, however, it would perhaps be difficult, in many cases, to justify payment of a dividend until several years after issue. This situation leads to the practical view that excess initial expense may be considered largely as an expense of the company as a whole, and such a view justifies allotment of a dividend even at the end of the first year. An offset to the abnormally high rate of expense in the first year is the abnormally low rate of mortality which results from medical selection. It is therefore practical to combine these elements and to use a graded expense charge which, in effect, *amortizes*

the excess initial expense over a period of years. New business is essential to the continued life of the company, and some part, at least, of the cost of obtaining it is properly charged against existing policies. At the same time there is no inconsistency in withholding the dividend at the end of the first year if the policy is not kept in force by the payment of the premium then due if, by paying a dividend, the company would suffer an actual financial loss on the transaction. The present New York statute provides that no dividend shall be apportioned for the first year of insurance unless, upon reasonable assumptions as to various factors involved (including expense), it was "actually earned." The difficulty about such a rule is to determine what is a reasonable assumption as to expense since, if the full actual expenses incurred at issue are charged against the policy, it would usually be impossible to show that any dividend was "earned" in the first year and perhaps even in the second or third year.

Dividend Options. Dividends are now almost invariably declared annually as is, in fact, required by the laws of many of the states.

Usually the policyholder may elect to take the dividend in one of four ways: (1) He may draw it in cash; (2) he may use it in part payment of any premium due (this being, of course, equivalent to drawing it in cash); (3) he may use it to purchase a paid-up *addition* to the amount of insurance payable at the same time as the face of the policy; (4) he may leave the dividend on deposit with the company and receive interest thereon as on a savings-bank account.

In the case of term policies the third option (additional insurance) is not usually given. In the case of premium-paying policies the majority of policyholders in most companies apply the dividends each year in part payment of premium, and, for simplicity, this course is sometimes encouraged. Where paid-up additions are purchased on a net basis (*i.e.*, where the cash dividend is applied as a *net single premium* to purchase paid-up insurance), as is usually the case, the option to take additional insurance is a valuable one, since the insurance is thus obtained at a low rate of premium. Such dividend additions are generally them-

selves participating, so that future dividends are therefore increased. The total amount of insurance is thus increased each year, and the total cash value of the policy is also increased.

If dividends are deposited at interest, the total cash value and the amount payable at death will be increased by the accumulated deposits. In event of death the amount payable would be less than if dividends had been used to purchase additional insurance, but the total amount obtainable in event of surrender will be greater, since the whole of the original cash dividends, with interest accumulations, remains to the credit of the policy, whereas, if additional insurance is elected, the accumulation is necessarily reduced by the cost of insurance for the dividend additions.

Sometimes it is argued that, if the policyholder wishes additional insurance, it is better to apply the cash dividend as the *annual* premium for a new additional policy instead of as the single premium for a much smaller amount of paid-up insurance. This is a fallacy. The new annual-premium policy is more expensive than the paid-up dividend addition since the former is sold at the regular premium rate, while the latter is purchased at net rates. Moreover, in order to pay future annual premiums on the new additional policy, future dividends on the original policy must never be less than in the first year. This may or may not be the case. It is better to elect dividend additions and have a steadily increasing amount of insurance purchased at net rates than to purchase additional policies at gross annual-premium rates and have, for a time, more insurance but in the long run less. If dividends on the original policy are not maintained, the new policy may require additional cash outlays to pay the premiums in later years.

Paid-up and Endowment Options. Many policies contain provision for applying dividend additions or accumulated dividend deposits either to convert premium-paying insurance into fully paid insurance (paid-up option) or to "mature" a policy by payment in full (endowment option) at an earlier date than called for by the terms of the contract, whether the original "maturity" would have been at the death of the insured, as in

life or limited-payment-life policies, or at some stated date, as in endowment policies.

The *paid-up option* will become available when the reserve for the accumulated dividends (whether these be in the form of additional insurance or deposits) is equal to the present value of all future *net* premiums payable. When that occurs, the company can cancel future premium payments if the dividend additions or deposits are canceled. In other words, the reserve for the dividends (or the amount of deposits) is merely added to the reserve for the policy, the result being the reserve for a fully paid policy. Sometimes an option is given to apply each dividend *as declared* to reduce the total number of premiums payable. This is comparable to the *accelerative* plan for maturing the policy as an endowment, as described below.

The *endowment option* will become available when the reserve value of the policy itself, increased by the reserve value of the dividend additions (or the amount of dividend deposits), equals the face amount of the policy. If the *reserve* value is the same as the *cash* value, the option has no significance since the policy may be surrendered at any time for its total cash value. Where the option becomes available before the time at which the cash value equals the full reserve for the policy, the option represents an additional benefit.

There are two forms of the endowment option. Under one of these the dividends remain at the credit of the policy throughout, so that if death occurs before there is a sufficient accumulation of dividends to make the endowment option available the company pays both the amount of the policy and the dividends. Under the second method each dividend is applied as it is declared to reduce the period of the endowment, *i.e.*, in effect, to convert the policy each year into a different *plan* under which the term to maturity is reduced. All conditions being equal, the second method (sometimes called the *accelerative endowment* plan will mature the policy in a shorter period than the first, because in the meantime the amount payable in event of death is only the face amount of the policy. Each dividend as credited becomes at once part of the reserve for the policy on the new (accelerated) basis.

On the first plan all dividends remain as *additional* insurance (or deposits) until the total *value* of policy and dividends equals the face amount. In making comparisons of dividend results as between different companies in regard to such options it is important to note which of these two methods is applied. Probably the first is preferable from the policyholder's point of view (because of the greater insurance protection), although the two methods are financially equivalent.

The Deferred-dividend System. The *deferred-dividend* system, under which only those policies which remained in force for a specified period, such as 20 years, were entitled to dividends, was widely used by some of the largest companies in the United States during the 30 or 35 years preceding the Armstrong investigation of 1905. It is now only of historical interest at least so far as this country is concerned. Nearly all policies issued on that system have terminated. For many years all participating life insurance issued in the United States has been with provision for annual dividends, and the laws of many of the states require the annual allocation of surplus and prohibit provision for deferred dividends.

The system in a modified form is, however, still used to some extent in Canada. Under the Canadian law dividend apportionment in the case of deferred-dividend policies must be made every 5 years, and the amount of surplus allotted and set aside for deferred dividends during a 5-year period must be carried as a definite liability until it is paid. Under the Canadian 5-year dividend plan it is usual to pay an interim dividend in event of death during the period but not in event of lapse or surrender.

The deferred-dividend system or, as it was called in its original form, the *tontine* system, was originated by the Equitable Life Assurance Society in 1868. The original tontine contracts provided that no dividend was payable until the total premiums paid, accumulated at 10 per cent compound interest, equaled the sum insured and also that in event of lapse no surrender value would be paid to the policyholder. In that way it was anticipated, and correctly, that the amounts which would be available for distribution as dividends to those who kept their policies in force

and who survived to the date of distribution would be large. On the other hand, those who died before the date of dividend distribution would have had better than a 10 per cent investment. This state of affairs, at first sight apparently advantageous to everyone, was possible only because of the profits to be made from the forfeiture of the policies of those who did not continue premium payments.

The tontine system was successful, although the results were not quite so favorable as was expected by the company. They were sufficiently favorable, however, to make the plan attractive to applicants who felt sure that they would not lapse their policies before the date of dividend distribution. The penalty of total forfeiture in event of lapse inevitably proved to be a very harsh one in many cases where changed circumstances prevented the continuation of the policy in force, and modifications in the plan became necessary to meet frequent objections to this feature. An alternative proposition was offered in the shape of the *semi-tontine* plan under which a surrender value was allowed in event of termination prior to the date of dividend distribution. The dividends on semi-tontine policies were naturally much smaller than those on policies issued on the full-tontine plan. Comparatively few tontine or semi-tontine policies were issued, and the system very soon developed into the deferred-dividend plan, which was adopted by many of the principal companies and which for many years practically replaced in these companies the annual-dividend system. Policies issued on the deferred-dividend plan usually guaranteed quite liberal cash or other surrender values in event of termination after the first few years. Many policies were issued on this system with deferred dividends payable only to policies which remained in force for 5, 10, 15, or 20 years.

Although it was condemned by the Armstrong Committee, the deferred-dividend system has some advantages. Those who die early incur no financial loss on the transaction although they receive no dividends, and it may not seem unreasonable to argue that those who live longer and pay more for their insurance should have a greater share of the savings, although the insurance

principle is to that extent defeated. It may be said, too, that a year is too short a period in which to ascertain profits or losses upon a business which depends to so great an extent on the maintenance of average results over long periods.

From the company's point of view the deferred-dividend system had the advantage that it materially reduced the strain on surplus caused by paying dividends in the early policy years or before any surplus had actually been created.

The main defect of the system as formerly practiced was not inherent but arose from the fact that *no accounting* was required of the funds which were being accumulated to pay deferred dividends. Amounts set aside from current surplus earnings to pay future deferred dividends were not, prior to 1907, a legal liability. The companies thus had in their hands very large sums of which they had full control and regarding the accumulation of which no accounting was required. These large dividend funds were carried on the books as part of the company's surplus. The possession of such apparently large "surplus" funds was not only misleading but was a temptation to extravagance in management. Thus it was the lack of proper accounting which was wrong, rather than any fundamental defect of the system itself. In addition, a system of issuing "dividend illustrations" based on "former results," which were regarded by many policyholders as guarantees, had grown up. Disappointment with actual results as compared with the figures shown in these illustrations caused much criticism of the whole system.

With a proper system of accounting under which the amounts accumulated and set aside for future dividends would be shown as a liability in the company's balance sheet, and thus not diverted to any other use, and with proper control of "dividend illustrations," the deferred-dividend system is not objectionable. The requirement as to accounting has been applied in some states since 1907 to all dividend accumulations under previously existing deferred-dividend policies.

Special Forms of Surplus Distribution. In addition to the regular annual dividends, some companies also pay *extra dividends* or *special-settlement dividends*.

An extra dividend may be either a single payment made after a policy has been in force a specified number of years or a periodical additional dividend allotted at stated intervals. In the former case the single extra dividend is usually a substitute for a first-year dividend, such an extra dividend being sometimes paid where the contract provides for dividends beginning at the end of the second year. This system has some practical advantages since it reduces the initial outlay and may also tend to reduce the first-year lapse rate. In effect, the method really amounts to assessing a larger share of first-year expense against those policies which terminate before the time when the extra dividend is paid.

Periodical extra dividends at, say, every fifth year have not been common. There seems to be very little theoretical basis or justification for such dividends. A practical advantage of such extra dividends lies in the fact that, while illustrative *average net costs* over a period of years are reduced by these extra payments, only those whose policies are kept in force get the additional payments. In the same way a special dividend paid only at the end of the twentieth year may reduce the average cost for the whole period quite considerably, but only those whose policies are maintained in force for the whole of that period will benefit.

A few companies allow a special-settlement dividend at the time of termination of the policy either by maturity or by death, or sometimes, also, on surrender, provided that the policy has been in force for a required length of time. The theory of such an extra payment is that upon termination after a certain period the policyholder is entitled to some part of the general surplus or contingency funds. Another reason may be to adjust a low *guaranteed* cash value to approximate the actual accumulated asset share. The majority of companies have not favored such a system of extra dividends on termination, taking the view that normally the contingency fund will be about the same proportion of the policy reserves when a policy enters as when it terminates, while guaranteed surrender values are not usually determined on so low a basis as to require adjustment by means of a special-settlement dividend.

Such extra payments involve smaller regular dividends. Also, there may be a tendency for the extra dividends to come to be considered as guarantees, especially where, as in some cases, they are declared as flat percentages of the face amount of insurance or the reserve, or where they have been paid on the same basis for a long period of time.

For a time the attitude of the Insurance Department of New York was that these various types of extra dividends were contrary to the requirement of the law that surplus should be distributed annually and not otherwise, and these irregular dividends were prohibited. The present statute, however, permits special additional distributions of surplus at intervals, provided the basis of allotment is deemed equitable by the Superintendent of Insurance. Provision for payment of settlement dividends was suggested in the Guertin Committee's Report on Nonforfeiture Values. The Standard Nonforfeiture Law provides that where the interest rate used in reserve calculations is more than $\frac{1}{2}$ per cent *less* than the rate used in computing nonforfeiture values, the company must submit a plan for paying settlement dividends. This is intended to prevent the unnecessary withholding (by the adoption of a very stringent reserve basis) of funds which could properly be credited to terminating policyholders. As explained in a later chapter, nonforfeiture values under the Standard Law may be computed on the basis of a higher interest rate than that used for the policy reserves and may thus be *lower* than if computed on the same interest basis as the reserves. Under previous laws these values were based on the reserve less a "surrender charge" of limited amount.

Annuities. While deferred annuities of the retirement type have been issued on a participating basis for many years, the ordinary forms of immediate life annuities have usually been non-participating.

Immediate Annuities. In theory there is no reason why the premiums for annuities should not be computed on the basis of very conservative mortality, interest, and expense rates with provision for dividends in event of a more favorable experience, just as is done in the case of life-insurance policies. In practice,

however, there are some reasons why this procedure has not been customary. Because of the very low and continually improving mortality among annuitants, little or no profit has been made or may be expected from this source. In fact, in the past, a loss from mortality has been the rule. The loss from a low mortality rate has in some cases been more than offset by excess interest earnings; but these, because of the annually decreasing reserve under an annuity, normally decrease even where the rate of interest earned remains the same. In recent years, with a decreasing interest rate, this tendency has been accentuated. The loading, in the case of single-premium annuities, is paid but once, and hence this source of surplus is nonexistent after the first year.

Consequently, the surplus earned on annuities is likely to be small, consisting of interest profit less mortality loss, and would probably decrease each year. It has seemed better to most companies to base annuity rates on the most liberal assumptions consistent with safety and to make them nonparticipating. This, however, involves a certain amount of risk to the company. If annuities are to be attractive and satisfactory from a competitive standpoint, the assumptions as to interest and mortality cannot be made unduly stringent, and if adverse changes occur after contracts have been issued, the company is faced with a loss.

In 1934, because of the fall in the interest rate and the uncertainties of the future, some important companies adopted the participating basis for annuities. Premiums for participating annuities are based on lower interest and mortality rates than are used for nonparticipating annuities, so that the *guaranteed* annuity which can be purchased for any given purchase price is less, in general, than under a nonparticipating annuity. These lower guaranteed annuities will, however, probably be increased by dividends which will reflect the actual interest earnings and the actual mortality experience but which will not be guaranteed.

The advantage of such a contract to the purchaser (annuitant) is that, although he has not such a large *guaranteed* income as under a nonparticipating annuity, he may and, in fact, should get a larger *actual* income. The disadvantage is that the actual

income will be uncertain and may decrease in amount. The advantage to the company is the greater degree of safety involved in the more conservative assumptions as to the rates of interest and mortality.

Undoubtedly there is much to be said, particularly under present conditions, in favor of participating annuities. Many companies still feel, however, that the majority of annuitants want a fully guaranteed annuity of a fixed amount and prefer such an annuity even though the amount which could be obtained under a participating contract might be greater.

The foregoing discussion assumes that dividends will be paid in cash. A method of dividend distribution which would largely eliminate the objections to participating annuities is to apply each cash dividend in the purchase of a small additional annuity. In that way the total income would never decrease, while the guaranteed income would show a gradual increase.

Retirement Annuities. Annuities of the retirement type generally involve no mortality feature prior to the retirement age but are simply accumulations at interest of gross premiums less expenses. Such annuities are practically always participating during the deferment period, the dividends consisting of (1) loading less expenses and (2) excess interest.

CHAPTER IX

THE TERMS OF THE POLICY

The *policy* is the document, prepared by the company, which constitutes the contract of insurance between the company and the policyholder. It is signed by an executive officer of the company. The application for insurance, signed by the applicant or person insured, is usually attached to and made a part of the policy.

In the early days of life insurance, policy forms were short. They contained very little more than provision for payment of the premiums by the person insured and for payment of the sum insured by the company. Additional matter was for the most part in the nature of limitations on the payment of the insurance. Modern policy forms are long, chiefly because of the numerous provisions for the benefit of the policyholder which they must contain in order to comply with the insurance laws of the various states or which have been voluntarily added by the companies. Thus, tables of cash and other nonforfeiture values and provisions for optional methods of settlement or for benefits in event of death by accidental means or in event of total-and-permanent disability have added materially to the necessary length of policy contracts. The modern tendency to use "plain language" in place of technical phraseology has, however, greatly simplified the policy, and it is fair to say that the average policyholder who takes the trouble to read his policy should have no difficulty in understanding its terms. Compared with the standard fire policy or the usual apartment-house lease (to cite only two examples of documents with which many people have to deal) a life-insurance policy is simplicity itself. These facts are often forgotten or ignored by those who criticize the length and complexity of life-insurance policies.

Historical Development. Prior to the era of governmental regulation of policy provisions, and before the expansion of the life-insurance business had given rise to severe competition, the life-insurance contract was in some respects much less favorable to the policyholder than it is now. For example, the early policies contained no provision for a cash or other value of any kind in event of lapse, irrespective of the length of time the policy had been in force. Any surrender value which might be allowed, always much smaller than at present, was available only at the option of the company and usually was granted only if claimed within a short period after lapse. Gains from forfeited policies were thus in the early days a source of large profits, which were in some cases sufficient to pay the entire expenses of the company. It was many years before the practice became common of providing for guaranteed or automatic surrender values whether in the form of cash, reduced paid-up insurance, or otherwise.

In 1861 the legislature of Massachusetts passed the first *non-forfeiture* law. This law required the companies operating in that state to grant surrender values in the form of extended term insurance, a feature which is explained later in this chapter. The New York Nonforfeiture Law of 1879 provided for the granting of paid-up insurance of reduced amount in case of lapse, but only if such paid-up insurance was claimed by the owner of the policy within 6 months of lapse, a restriction which greatly limited the effective benefit of the law and which was generally taken advantage of by the companies. These laws, together with the general influence of competition, gradually led to a more liberal treatment of policyholders in the matter of guaranteed surrender values. The first step was the guarantee of proportionate paid-up insurance in case of lapse of limited-payment life policies and endowment policies, this being generally somewhat more liberal than the nonforfeiture laws required. By the end of the nineteenth century it had become common for the companies to insert in their policies tables showing the amounts of guaranteed cash or other surrender values which could be obtained each year in event of discontinuance. In fact, the

force of competition was so great that eventually there was a tendency in some instances to undue liberality in this respect. It was in this period that the practice was introduced of allowing the full amount of the reserve as a cash-surrender value after the policy had been in force some years.

It was also usual at one time (prior to 1906) to require the applicant to *warrant* the truth of all statements made in the application. Most applicants were not aware that the legal effect of such a warranty was to render the policy void at the company's option if any answer or statement, however trivial, was not literally true. The opportunity was thus offered to an unscrupulous company to evade payment of legitimate claims. The laws of most states now prohibit such a provision and require that statements by the applicant shall be considered to be representations, not warranties, and thus need be only *substantially* true.

There are many other respects in which policy provisions are now more favorable to the insured than formerly. Most modern policies are entirely free from all restrictions as to change of residence or occupation except where, because of the special circumstances of the case, it may be necessary to provide otherwise if the insurance is to be granted. Formerly all policies contained definite limitations as to residence, travel, and occupation. However, under conditions then existing, some of these restrictions were necessary.

Regulation by the States. The terms of the policy are to a considerable extent prescribed by law. Policies must contain certain *standard provisions* required by the laws of the states in which insurance is written.¹ In many states, policy forms and application blanks must, in addition, be approved by the insurance commissioner before they may be used, and such approval will not be given unless they are in accordance with the laws of the state and are free from any provisions or restrictions considered to be objectionable from the policyholder's point of view.

¹ The statutes do not, in general, prescribe the exact wording to be used, so that the expression "standard provisions" does not imply that the policies of all companies are identical in regard to these provisions.

State regulation of policy forms or of policy provisions arose out of the recommendations of the Armstrong Committee. Following the investigation of that committee the insurance commissioners of the several states held a conference in February, 1906, at which a committee was appointed (the Committee of Fifteen) to report on the subject of uniform legislation with regard to life-insurance matters. The recommendations of the Committee of Fifteen followed those of the Armstrong Committee in a great many particulars with the result that the insurance laws of the states with regard to policy provisions are very similar.

There will now be considered some of the principal standard policy provisions in conjunction with such other provisions as are usually found in modern policy forms. For convenience of discussion policy provisions may be divided into three groups: (1) those which relate to payment of premiums; (2) those which relate to payment of the sum insured; (3) those which are of a miscellaneous nature.

POLICY PROVISIONS RELATING TO THE PAYMENT OF PREMIUMS

Days of Grace. A requirement in practically all states is that premiums may be paid at any time within a month (or 31 days) following the premium-due date, the policy remaining, meantime, in full force. The policy usually provides that, if death takes place during the grace period, the premium will be deducted from the amount payable. As no premiums are received from those who eventually lapse their policies, although their insurance remains in force during the grace period, there is some loss from this source. The company may, if so provided in the contract, require payment of interest for any part of the grace period taken advantage of by the policyholder, but this is never done. As the companies are generally required to issue premium-renewal notices not less than 15 days before the due date of the premium, there is very little real need for any grace period. The effect of state laws regarding premium notices and days of grace is that the policyholder receives his notice 6 weeks to 2

months before the *last* day for payment, and there is thus more than a possibility of its being overlooked unless the company voluntarily sends a second notice during the grace period, as is sometimes done.

The practice of sending a second premium notice toward the end of the grace period was formerly almost universal. Within the past few years many companies have discontinued this practice, chiefly as a measure of economy and because of rising expenses.

Deduction of Fractional Premiums at Death. As explained in a previous chapter, it was formerly the invariable custom to calculate premiums on an *annual* basis, *i.e.*, on the assumption that a full annual premium would be paid for the policy year in which death occurred. Where premiums were payable "fractionally," *i.e.*, semiannually, quarterly, or monthly, such premiums were, therefore, properly treated as *instalments* of an annual premium, and the policy provided that any such instalments for the year in which death occurred and which had not become payable at the date of death would be deducted from the amount payable by the company.

While this deduction of fractional premiums was theoretically correct and necessary, it frequently gave rise to complaints by beneficiaries who felt that, by making such a deduction, the company was improperly charging for insurance after the death of the insured. Gradually it became the practice to eliminate provision for the deduction of fractional premiums at death. This practice involves a small additional insurance benefit to those who pay premiums otherwise than annually. However, the cost of this additional benefit is generally covered by the extra loading charge for fractional payment, or it can be included in the *net* premium, by an appropriate calculation, as is now done by some companies. Very few policies now being issued contain provision for the deduction of fractional premiums at death and most companies do not now enforce such a provision in policies formerly issued.

It has been pointed out that some companies have gone further by providing in their policies for a *refund* of a proportionate

part of the *last* premium paid (whether annual or other), for the period from the date of death until the next premium due date. Such a provision increases the effective amount of insurance *in all cases*. While this provision may be attractive from a practical and competitive point of view, it is of questionable merit in view of the resulting implication that life-insurance premiums, like fire-insurance premiums, cover just the cost of insurance for the period for which they are paid. Under the level-premium plan that is not the case.

Nonforfeiture. Under the level-premium plan (involving payment, in the earlier years, of *more* than the actual cost of insurance) a provision for *nonforfeiture*, *i. e.*, for a return in cash, or in some other form, in event of the discontinuance of premium payments, is very important. This was required as early as 1861 by the Massachusetts law. Except in the case of term insurance for short periods (where the "overpayments" are very small and the granting of nonforfeiture benefits would be impracticable), state insurance laws now require that the policy shall contain provision for cash or modified insurance benefits in event of lapse. The laws specify the *minimum* nonforfeiture benefits. Usually the benefits guaranteed in the policy are substantially greater than the legal minimum.

There are three forms of nonforfeiture benefits, or "values": (1) a surrender value in *cash*; (2) a reduced amount of *paid-up insurance*, payable at the same time, and under the same conditions as the original amount of insurance; and (3) *extended term insurance* (sometimes called *continued insurance*), of the *full amount* payable under the policy, for such period as can be paid for by the cash value.

The law requires, and the policy provides that, if the insured does not apply for the cash value, one of the other two (insurance) nonforfeiture options—which is nearly always the extended-term-insurance option—shall take effect *automatically*. Further details of the requirements of the law in regard to each of the three options are explained later.

The legal requirements as to nonforfeiture were radically altered by the enactment of the Standard Nonforfeiture Law,

which applies, in general, to all policies issued on or after Jan. 1, 1948. The requirements prior to that time, and the changes effected by the Standard Law will be explained in the following sections dealing respectively with cash, reduced-paid-up-insurance, and extended-term-insurance nonforfeiture values.

Cash-surrender Values. *General Principles.* We shall first consider some of the general principles which should determine the *basis* of the cash-surrender value. The basic principle is that the amount paid should not be so large as to result in actual loss to the company, *i.e.* (in a mutual company), to the continuing policyholders.

Theoretically, it might seem that the cash-surrender value should equal the amount of the accumulated overpayments, namely, the *reserve*. It is, in fact, a common practice to allow a cash value equal to the reserve after the policy has been in force for some years—the number of years varying in different companies. There are, however, two good reasons why the cash value should not be as much as the full reserve. The first of these reasons is that the reserve is an *average* figure and has no real significance as applied to an individual policy. If all the healthy lives were to surrender their policies and were to be paid the full amount of the reserves, the total amount of reserve remaining would be insufficient because the rates of mortality among those who did not surrender (the “unhealthy” lives) would be much greater than those assumed for *all* insured. Since a policyholder is very unlikely to surrender his insurance if he is definitely in very bad health, it is reasonable to assume that, *on the average*, those who surrender their policies are in better health and likely to live longer than those who do not surrender. If that is correct, payment of the full reserve to surrendering policyholders will tend to result in loss to the company.

The second reason why the cash value should, in general, always be less than the reserve is that surrenders may, if an excessive value is allowed, cause *financial* loss to the company. They may necessitate the liquidating of investments at an unfavorable time or reduce the amount available for investment when interest rates are high. Surrenders tend to increase at such times.

There is also the fact that the guaranteeing of cash-surrender values requires the company to keep some part of its assets in liquid form—such as in cash or government bonds—and thus tends to reduce the over-all rate of interest earned. From this point of view, therefore, a surrender value of something less than the reserve is justified.

These two reasons for allowing less than the full reserve as a cash-surrender value apply at any time and irrespective of the number of years the policy has been in force. In the earlier policy years there is a much more compelling reason for not paying the full reserve. This is the fact that in the first year (and possibly for a longer period) the actual expenses are greater than the premium loadings. Thus, if reserves are set up on the full net-level-premium basis, the full amount of the reserve in the early years on a particular policy has not been derived from the premiums paid on that policy but has come, partly, from the company's surplus. The policy will not, in fact, have supplied its own reserve until there has been a sufficient excess of *renewal* loadings over *renewal* expenses to repay the excess expenses of the first year. That may take, perhaps, 5 years or more, according to the amounts of expenses actually incurred and the amounts of loading available. It is evident, therefore, that payment of a cash value equal to the full reserve in the earlier years may result in an actual loss to the company on the whole transaction, considering only the question of expenses and apart from the other considerations referred to above.

It would be possible to take the view that the excess expenses of the first policy year should not be charged against individual policies but should be considered as an expense of the company as a whole. That view might be justified on the grounds that new business is essential to the continued existence and growth of the company and that the cost of obtaining new business should, therefore, be shared by all the policyholders. That view would justify payment of higher cash values in the early years but it seems more reasonable to limit the cash value to such an amount as will not result in the company's being actually "out of pocket" if a policy is surrendered.

The Asset Share. The foregoing discussion indicates that the proper basis of the cash value is not the reserve but the amount which has *actually* been accumulated and that, theoretically at least, some deduction may properly be made from this "actual fund" to allow for the presumably better average health of those who surrender and for the possible financial loss which may be involved in the system of guaranteeing cash-surrender values. The *actual fund* accumulated under a particular policy or class of policies is called the *asset share*. It results from the *actual* rates of mortality, interest, and expense as distinguished from the *assumed* rates involved in the calculation of the premium and the reserve. Because of the incidence of expense, the asset share is normally *less* than the reserve for some years. Later, the asset share should be somewhat greater than the reserve since it will include the part of surplus earnings which is retained in the general contingency or other surplus fund, and which has not been paid out as dividends. It does not follow, however, that the company should then pay a cash value *greater* than the reserve since (apart from the considerations referred to above) the usual view is that all policies should make a contribution to the permanent surplus or contingency fund. However, some companies pay "special-settlement dividends" under certain conditions when a policy is surrendered. These represent a share of the surplus or contingency fund and may result in a total cash value greater than the reserve.

Cash Values Prior to the Standard Nonforfeiture Law. Prior to the enactment of the Standard Nonforfeiture Law the requirements of the various state insurance laws as to cash (and other nonforfeiture) values were not uniform. The law of any state applied to policies issued in that state, so that companies operating in a number of states had to determine their scales of cash values in accordance with the law of the state which had the highest requirement—since it would have been undesirable and impracticable to use different scales of cash values for policies issued in different states.

The effect of this situation was that the *minimum* cash-surrender value which could, in general, be paid by any company

operating in more than a few states was the *reserve* under the policy less a *surrender charge* not exceeding \$25 for each \$1,000 of the face amount of the policy. That was the requirement, for example, under the former New York law. No state required a *higher* value. In general, *no* cash value was required by law on any policy until premiums had been paid for 3 years, nor for any policy of *term* insurance of 20 years or less.

In practice, the cash values actually specified in the policy were equal to the reserve on the basis stated in the policy less a *decreasing* surrender charge, with payment of the full reserve after a period of from 3 to 20 years. Many companies also guaranteed a cash value in less than 3 years in the case of policies such as endowments or limited-payment-life policies with short premium-paying periods, *i.e.*, policies with a relatively large "investment element" under which a substantial asset share was accumulated in the early years.

The former basis for determining the legal minimum cash values was extremely arbitrary and defective. A uniform surrender charge, irrespective of the number of years the policy had been in force, the plan of insurance, or the age at issue, is arbitrary and inequitable and would result in cash values which had little or no relationship to asset shares, *i.e.*, to the amounts actually available. A specified uniform surrender charge of \$25 per \$1,000 could be and was, insufficient in some cases at the early durations and would have been excessive in practically all cases for long durations. The expression "surrender charge" was, in itself, objectionable since it implied a *penalty* on surrender, rather than a proper and necessary allowance for excess initial expense. Also, the provision that no nonforfeiture value whatever need be allowed until premiums had been paid for 3 years, irrespective of the type of insurance, was inequitable and arbitrary. The companies endeavored to pay more equitable cash values through the use of decreasing deductions from the reserve and in other ways, but the rigidity of the laws meant that only a rather rough approximation to equity was possible.

Cash Values under the Standard Nonforfeiture Law. The two main purposes of the Standard Nonforfeiture Law were (1) to

establish a more logical and equitable basis for *minimum* values, based on ability to pay rather than on the amount of the policy reserve; and (2) to remove the defects of the previous system.

The basis specified in the Standard Law for determining minimum cash values is the *adjusted-premium method*. It is based on the asset-share principle. It would not be practicable to frame a law which would take account of all the different premium rates, expense rates, and other peculiarities of different companies. That would involve different minimum values for different companies although, theoretically, it would be logical. The minimum values under the law are based on certain *assumed* excess initial expenses and on the assumption that these expenses are *amortized* (i.e., recovered out of renewal loadings) over the whole of the premium-paying period. The amount of the assumed excess expenses is partly a constant amount for each \$1,000 of insurance and partly a percentage of the net premiums. This method recognizes the fact that expenses depend on the plan of insurance and the amount of the premium, a fact which was not taken into account under the former system of a *uniform* surrender charge. The *amount* of expense assumed in the law was determined on a basis intended to be reasonable and liberal in the case of any properly managed company.

The *adjusted premium* is the net premium *plus* the annual amount required to amortize or pay off the (assumed) excess initial expense. The minimum cash value is the present value of the insurance benefit *less* the present value of the adjusted premiums. It will be remembered that the *reserve* at any time is the then present value of the insurance benefit *less* the then present value of the remaining *net* premiums. The minimum cash value under the adjusted-premium method is thus, simply, the reserve *less* the part of the excess initial expense which has not yet been amortized, i.e., repaid out of renewal loadings. It is important to note, however, that the *minimum* values are calculated, not on the mortality and interest bases which may actually be used by the company for its premiums and reserves but on a *specified* basis which is the same for all companies, namely, the C.S.O. Table with interest at $3\frac{1}{2}$ per cent. This

removes one of the defects of the former laws under which a company which maintained reserves on a high basis was compelled to pay higher cash values than a company with a lower reserve basis even though its premium rates and expenses might be about the same.

In connection with this feature of the Standard Law it is necessary to explain a further provision of that law. If a company were to compute its reserves on a very high basis, such as C.S.O. net-level premium with interest at 2 per cent, and if it paid only the minimum cash values required by the law, the company would be likely to make an excessive gain from surrendered policies. Funds which might have been paid to policyholders as dividends would have been withheld in order to build up high reserves from which the withdrawing policyholders would derive no benefit. To prevent this, the law provides that if a company holds reserves on an interest basis more than $\frac{1}{2}$ per cent *less* than the interest basis used in calculating nonforfeiture values (which *may* be $3\frac{1}{2}$ per cent) a plan must be adopted for paying "equitable increases" in addition to the *guaranteed* cash values. This requirement is, in fact, largely academic since it is unlikely that any company would compute its cash values on an interest basis so much higher than the basis used for its reserves. The great majority of companies use the same interest basis for the calculation of both cash values and reserves.

It should be observed that the Standard Law merely fixes *minimum* values. The values actually allowed are usually substantially higher than the minimum values. The minimum values are calculated by the adjusted-premium formula but the actual values are not necessarily calculated by that formula. Many of the principal companies now use the adjusted-premium method but with lower assumed expenses than are permitted under the Standard Law. Frequently also the formula is modified to provide for the amortization of the excess initial expense over a shorter period than the full number of years for which premiums are payable so that the guaranteed cash value may equal the full reserve after a period such as 10, 15, or 20 years.

A requirement of the Standard Law is that the policy must

include a description of the *method* of calculating cash values. Where a company uses the adjusted-premium method, or some modification of that method, this may involve the introduction into the policy of some rather technical phraseology.

The Standard Law does not actually require the payment of a *cash* value until after premiums have been paid for 3 years (5 years in the case of industrial policies) but it does require the company to grant a nonforfeiture benefit in the form of *paid-up insurance* (either reduced paid-up or extended insurance) whenever the adjusted-premium formula gives a positive value. This means that a paid-up-insurance benefit must be granted under almost all types of policies after 2 years' premiums have been paid and in some cases after less than 2 years. In practice it is usual to provide in the policy for a cash value wherever the company would have to grant a paid-up-insurance benefit. The purpose of the law in making this distinction was to avoid the necessity of paying very small cash values in the first one or two years.

Under the former state laws, no cash or other nonforfeiture value was required in the case of *term* insurance policies of 20 years or less. Under the Standard Law a term policy for more than 15 years or which expires after age sixty-five must contain provision for nonforfeiture values.

The adjusted-premium method eliminates the principal defects of the former system since (1) it provides for a surrender value (in cash or insurance) at *any* duration where there is, presumably, the ability to pay it; (2) it substitutes a reasonable and logical basis of minimum values for the former purely arbitrary basis; (3) it makes the required surrender value largely independent of the particular reserve basis adopted by the company; and (4) it eliminates the conception of a *penalty*, or surrender charge, for voluntary termination of insurance.

Delay Clause. An important change in policy provisions relating to cash-surrender values was introduced fairly generally about 15 years ago (1934), following the temporary closing of the banks and the resulting state-imposed moratorium on payment of cash-surrender values and the granting of policy loans. A

delay clause was adopted under which the company has the right to postpone payment for a stated period. This clause was previously in use by a number of companies and was, in fact, required by law in the state of Massachusetts (domestic companies only). The delay period was usually 3 or 6 months. The Standard Nonforfeiture Law provides for a mandatory and uniform delay period of 6 months.

The advantage of a delay clause is that it gives the company the legal *right* to postpone payment, and under certain conditions (such as existed during the moratorium) this might be very desirable. If conditions arise when there might be a "run" on the company for cash, the clause would be of real value as a protection to the interests of the policyholders as a whole, and it is only in such circumstances that it would be invoked.

Only in the United States and Canada is it usual to *guarantee* liberal surrender values. The tendency of insurance laws on this continent has been to compel the companies to grant what are sometimes excessively liberal terms to policyholders—particularly withdrawing policyholders. It is doubtful if the best interests of policyholders as a whole are attained by such laws. It is true, of course, that the liberal surrender values generally allowed are not required by law, competition being an important factor.

Reduced Paid-up Insurance. The advantage of reduced paid-up insurance is that it provides insurance of the same kind and for the same period as the original policy, though for a smaller amount. The reduction in amount is naturally considerable in the earlier policy years, and even at longer durations the amount of paid-up insurance obtainable may seem small in relation to the premiums paid.

Under the Standard Law the amount of reduced paid-up insurance must be such that its present value is at least equal to the cash-surrender value. Usually the amount of paid-up insurance is the *equivalent* of the cash value, *i.e.*, the amount which can be purchased by the cash value, applied as a net single premium, on the mortality and interest bases stated in the policy.

In the case of limited-payment life or endowment policies the

paid-up option is more attractive since the amount of the paid-up insurance in such cases is larger in relation to the premiums paid and, except for the higher ages at issue, generally approximates to such proportion of the face of the policy as the number of premiums paid bears to the total number payable. This appeals to policyholders as reasonable. At one time, it was common to allow such "proportionate paid-up insurance" under limited-payment and endowment policies.

One advantage of the reduced-paid-up option as compared with extended term insurance is that it is usually participating, *i.e.*, the policyholder continues to receive dividends, although these are naturally much smaller than on the premium-paying policy. In a few companies reduced paid-up insurance is the *automatic* option in event of no other election being made by the policyholder.

Extended Term Insurance. Extended term insurance ("continued insurance") provides continued temporary insurance protection of the same amount as would have been payable under the original policy, the period of insurance being such as can be purchased by the net cash-surrender value when applied as a net single premium.

In the policies of most companies extended term insurance is the *automatic* nonforfeiture feature.

Under the Standard Law the period of extended term insurance *may* be calculated on the basis of mortality rates not greater than 130 per cent of those according to the table used for computing nonforfeiture values. This makes allowance for the fact that the mortality experience under extended term insurance has been (as would be expected) generally higher than under reduced paid-up insurance or under "running policies." The use of a different mortality basis for calculating the periods of extended insurance, however, introduces certain practical complications and most companies have not taken advantage of this provision of the law. The result of doing so would, of course, be to reduce materially the periods of term insurance.

If there is an outstanding policy loan, both the amount of term insurance and the cash value used as a net single premium

to purchase it are reduced by the amount of the loan, as required by statute. If there are any dividend additions or, in some cases also, dividend deposits at interest standing to the credit of the policy, the amount of these will be added in determining the amount of the term insurance, and the cash value of such dividends is included in the total cash value applied in purchasing the term insurance.

Frequently the policyholder fails to understand why there should be a reduction in *both* the amount and the period of extended term insurance on account of a policy loan. An unpaid policy loan is, in effect, a prepayment of part of the sum insured. In event of death while the policy was in full force on a premium-paying basis the loan would be deducted. The amount of insurance under the extended-term provision should not be greater than such net insurance. It would be possible, if not contrary to law, to apply the net cash value (deducting the loan) to purchase term insurance equal to the face amount, but in that case the period would be shorter.

The loan must, of course, be deducted from the cash value since it is the *net* cash value which is available to purchase the extended insurance, whatever the amount of such insurance may be. The effect of deducting the policy loan from both the cash value used to purchase extended insurance and the face amount of the policy (in determining the amount of the term insurance) is to reduce the length of the term purchasable, as compared with the term available where there is no loan. That is because, in such circumstances, the deduction is a much greater proportion of the cash value than it is of the face amount of the policy. Theoretically the amount of term insurance should be, not the face amount less the loan, as required by law, but the face amount less the part thereof having a cash value equal to the amount of the loan; *i.e.*, part of the policy would be *surrendered* to pay the loan and only the balance continued as extended insurance. If this method were used, the *period* of term insurance would not be affected by a loan. The rule laid down by law in effect *increases* the total insurance and thus necessarily reduces the term, since the net cash value remains the same.

Thus, if a policy of \$1,000 has a cash value of \$500 and a loan of \$250, the cash value of *one-half* of the policy is required to repay the loan so that the proper *amount* of extended insurance would be \$500 whereas the law requires insurance of \$750. In other words, the *amount* of the term insurance is reduced by one-fourth, while the *cash value* available to purchase it is reduced by one-half. The *term* therefore must be less than it would be if no indebtedness existed. In the same way, where there are dividend additions or deposits, the term will be increased, since the increase in the cash value is proportionately greater than the same increase in the amount of insurance to be granted.

In the case of endowment policies the cash value may be more than sufficient, after some years, to purchase term insurance for the full amount to the end of the endowment period. In that case, the excess of the cash value over the amount required to pay for the term insurance for the balance of the original term of the policy is applied to purchase a *pure endowment*, i.e., an amount payable at the end of the endowment period if the insured is then living, and not otherwise.

For example, in the case of a 20-year endowment policy for \$1,000, issued at age thirty-five and 10 years in force, the reserve (C.S.O. Table at $2\frac{1}{2}$ per cent) is \$430.71.² The net single premium at age forty-five for 10-year term insurance of \$1,000 is \$99.72, leaving a balance of \$330.99 to be applied to purchase a pure endowment payable at the original maturity date if the insured is then living. The amount of pure endowment so purchased is \$478.95. The extended insurance of \$1,000 for 10 years with a pure endowment of \$478.95 is, of course, the same thing as \$478.95 *endowment insurance* (not pure endowment) plus \$521.05 10-year *term* insurance. Theoretically the cash value could, equally well, be applied to purchase \$1,000 of pure endowment, or a smaller amount if the cash value were insufficient, any balance being applied to purchase term insurance of reduced amount for the balance of the endowment period.

² This illustration assumes that the cash value at the end of the tenth year is the full reserve, which is not necessarily the case.

Automatic Premium Loan. A provision that, in event of non-payment of premium, the amount of the premium will automatically be advanced as a loan (provided that the cash-surrender value of the policy is sufficient) is not, strictly speaking, a "non-forfeiture option" or "option on lapse" since the policy does not lapse but remains in full force subject to the loan.

Such a provision is widely and increasingly used, although there is room for difference of opinion as to whether it is altogether desirable from the point of view of either the policyholder or the company. In 1934 the law of Rhode Island was amended to require that all policies issued thereafter in that state should contain provision for *automatic premium loan*, and a similar law was passed in Montana in 1943. These laws apparently prevent policyholders in these states from electing that any nonforfeiture option (reduced paid-up or extended term insurance) shall take effect *automatically* upon nonpayment of premium but do not prevent the policyholder from electing one of these options at the time of lapse.

With the exception of policies issued in these two states, very few companies in the United States include in their policies an automatic-premium-loan provision which takes effect without a specific prior election by the policyholder, but most Canadian companies do so. A substantial group of companies have such a provision in the policy, effective only if elected by the policyholder, and most companies which do not have such a provision will add it by endorsement on request. A few companies (including some of the larger ones) will not include any provision for automatic premium loan.

The great advantage to the policyholder of an automatic-premium-loan provision is that, in event of inadvertent non-payment of premium as by absence from home or temporary inability to pay the premium, the policy is kept in full force. Unlike the automatic nonforfeiture options (reduced paid-up or extended insurance), this provision makes it possible to resume premium payments at any time (so long as the equity in the policy remains sufficient to pay premiums as they become due) without furnishing evidence of insurability. Also, the fact that

the policy remains in full force means that any "special benefits" such as disability income or waiver-of-premium benefits or double indemnity, which would not be continued under a nonforfeiture option, remain in force, while, if the policy is participating, the policyholder continues to receive dividends, which would not usually be the case under extended insurance or, sometimes, under reduced paid-up insurance.

On the other hand, unless the provision is used, as intended, only as a temporary convenience, it may prove to be to the policyholder's disadvantage. If premium payments are *not* resumed, not only will the *period* during which the policy will be kept in force usually (although not always) be less than under extended insurance, but the *amount* payable in event of death will be less and will steadily decrease as the indebtedness increases. During the earlier policy years the period of insurance under the automatic premium loan may be as great as or greater than under extended insurance. This is because the surrender of the policy is postponed and the cash value at the date when the insurance ceases is a relatively greater proportion of the reserve (*i.e.*, there is a smaller "surrender charge") than where extended insurance takes effect by the surrender of the policy immediately upon default in payment of premium. In the later policy years extended insurance will usually give a longer period of coverage than an automatic-premium-loan provision.

A practical disadvantage from the policyholder's standpoint is that where such a provision exists he may be inclined to use it too readily, and this may lead to eventual lapses which might not otherwise take place.

From the company's point of view such a provision also has both advantages and disadvantages. Where premium payment is resumed promptly, the system is simpler and much less expensive than to lapse the policy, set up the extended insurance, and then, in a short time, reverse these operations and reinstate the policy. In these circumstances the automatic loan is less expensive to operate than either extended insurance or the granting of a regular policy loan for a short period. However, the reverse is true where premium payments are not resumed.

Again, in event of death during the period covered, the company is better off financially under automatic premium loan since it receives the additional premiums by deduction from the policy proceeds, but it incurs additional outlays on account of commissions, premium taxes, and dividends which would not be incurred under extended insurance. There is also some possibility of loss through adverse selection because of the right to resume premium payments without evidence of insurability.

Since the system reduces the incentive and eliminates the necessity on the part of the policyholder of paying premiums promptly and also the incentive of the agent to see that premiums are paid on time, it may tend to increase the lapse rate. There is, however, no statistical evidence that this is so. The experience of the Canadian companies, most of which have this provision in their contracts, apparently does not indicate a higher lapse rate on this account.

A modification of the automatic-premium-loan provision, which would eliminate most of the disadvantages referred to above, would be to provide for an automatic loan only for the *first* unpaid premium, one of the nonforfeiture options taking effect automatically upon nonpayment of the next subsequent premium. Such a modification would take care of accidental lapses through oversight or those due to temporary shortness of funds, which is the main, if not the only, purpose of the provision.

Reinstatement. All policies give the right of reinstatement within a reasonable time after lapse, usually 3 or 5 years, provided that the insured is still an insurable risk. The laws of many states require that such a right be given within 3 years of lapse. The company could not afford to permit reinstatement, even after a brief period, without some evidence of insurability. If that were done, those who had lapsed their policies and who unexpectedly found themselves in bad health would, in most cases, take advantage of the right to reinstate, while many of those in good health would not do so. Usually, however, a medical examination is not required where the lapse has occurred very recently, say, within 2 or 3 months, the company

in such cases generally accepting a statement from the insured that he is still in good health. It is generally held that under the usual policy provision requiring "evidence of insurability satisfactory to the company" (not merely a satisfactory *medical* examination) the same degree of selection may be made by the company on an application for reinstatement as on an application for insurance. In other words, restoration may be declined for other than medical reasons, for example, impaired habits or unsatisfactory financial standing.

The *right* of reinstatement does not usually apply where the cash value of the policy has been paid or, sometimes, where the policy has been continued as extended term insurance for the full time available and is no longer in force. The right of reinstatement, while a proper one so long as it covers cases of lapse through inadvertence or through inability to pay premiums, may properly be restricted in this way since, where either the cash-surrender value has been paid in full or the extended insurance has expired, the insured has received the full consideration for his premiums and has no right to any terms different from those offered to new applicants. As a matter of fact, it would frequently not be financially advantageous to reinstate a policy some time after it had ceased to be in force if it were necessary to pay all arrears of premium with interest—the usual terms. One reason for requesting reinstatement in such cases would be in order to obtain a form or type of policy no longer issued, such as a policy containing the former liberal provisions for benefits in event of total-and-permanent disability or optional-settlement provisions more favorable than those in policies currently being issued.

The companies take a liberal view in regard to reinstating policies and, as a rule, do not adhere strictly either to the restrictions permitted by the various state insurance laws or their own policies. Under normal conditions where the insured can furnish satisfactory evidence of good health and insurability, there are very few cases in which reinstatement will not be permitted on suitable terms. The terms would usually be payment of past-due premiums, less dividends, with interest together

with either payment in cash of any indebtedness which existed at the date of lapse with interest or reinstatement of such indebtedness increased by past-due interest if the cash value of the policy after reinstatement were sufficient.

In the case of term insurance (under which no nonforfeiture option is usually granted) the cost of reinstatement is sometimes limited to the current premium. In that case no dividends would be credited for the period for which no premiums had been paid.

Reinstatement by Redating. A method of reinstatement which is sometimes adopted when lapse occurs before the policy has acquired a cash value is to reissue the policy, advancing its date by the period during which the policy has been out of force, allowing credit for all premiums paid on the original policy. The premium payable on the reissued contract would be that applicable to the age on the advanced date of issue and might therefore be greater than the original premium. This method is not practicable after the policy has acquired a cash value since under the nonforfeiture provision the insurance would remain in force for at least part of the time between lapse and reinstatement.

POLICY PROVISIONS RELATING TO PAYMENT OF THE SUM INSURED

The policy is usually made payable upon receipt of proof of the death of the person whose life is insured; and although old forms of contract which provide for an interval of some months before payment is due are still in force, the amount due is now always paid immediately upon establishment, by the claimant, of the right to receive payment. Occasionally payment is made as of the date of death, interest being allowed from the date of death to the date of payment. A reason for this is to maintain consistency as between claims paid in a single sum and those under which one of the optional modes of settlement (described below) has been elected. In the latter case the company issues a *supplementary contract* providing for the payments under the settlement. Frequently the supplementary contract is dated as of the date of death, with interest running effectively from that

date. Where that is the case, it is consistent to credit interest from the date of death on single-sum payments.

The principal policy provisions relating to the payment of the sum insured under policies issued in recent years are the *incontestable clause*, the *war clause* or *war and aviation clause*, and the provisions for *optional modes of settlement* of the amount payable.

The Incontestable Clause. The majority of the states require, and the policies of all companies provide, that they shall be *incontestable* after a stated period, usually either 1 or 2 years, from date of issue except for nonpayment of premiums. The reason for such a provision is found in the character of the life-insurance contract. The contract is based on information supplied by the insured, and it is undesirable that the company's liability for payment be disputed after the insured is dead, when it may be difficult either to prove or to disprove the truth of statements made many years earlier. In the absence of fraud it is clearly desirable that certainty of payment be assured, and a provision to that effect is, perhaps, necessary to create the confidence of the public in the institution of life insurance.

Clauses in use by the companies are, in general, of three types. The first may be termed a "straight" *incontestable clause*. Such a clause may read as follows:

This policy shall be *incontestable* after it shall have been in force for two years from its date except for non-payment of premiums and, at the option of the company, except as to provisions relative to benefits in the event of total and permanent disability and provisions which grant additional insurance specifically against death by accident.

It will be noted that there is no exception in event of fraud in obtaining the policy. Strictly speaking, such an exception should not be necessary, since nothing is more clearly established in the general law of contracts than that fraud renders a contract void *ab initio*. The weight of judicial opinion, however, is that a policy obtained by fraud can nevertheless be enforced against the company under the provisions of an *incontestable clause*, provided, of course, that the period of contestability has expired.

Since under this type of clause it has also been held that the death of the insured during the period specified does not suspend the operation of the clause, it follows that where death occurs shortly after the issue of a policy obtained by fraud, the beneficiary could, by merely waiting until the expiry of the contestable period before notifying the company of the death of the insured, recover full payment, unless the company had in the meantime found out about the fraud and had brought an action in equity for rescission of the policy. The company must, therefore, satisfy itself during the period of contestability as to the correctness of the statements in the application.

The exception in regard to nonpayment of premiums is probably superfluous, since not only is the consideration for the contract (the premium) fundamental to its existence but, in any case, the contract itself specifies what modifications of the benefits are to take effect in event that a premium is not paid, and any contest could relate only to such modified benefits.

The laws of most states permit a further exception of "violation of any provision of the policy relating to naval or military service in time of war." Except for policies issued in time of war, or when war was imminent, it has not been and is not now the practice to include in the policy any restrictions as to military or naval service. In the absence of any such restrictions the company takes the risk that the insured may, at some future date, engage in such service. The situation in time of war is discussed later.

In regard to the "special benefits" (*i.e.*, disability and double indemnity) a different situation exists from that relating to the life-insurance contract. The provisions relating to such benefits should be excluded from the operation of the incontestable clause since otherwise the company might be compelled to admit claims under circumstances where it would not properly be liable. Such exclusion would be permissible under the laws of most states. In New York, however, a provision for benefits in event of total-and-permanent disability must be incontestable after 3 years.

The second type of incontestable clause is the same as the one already considered except that the policy is incontestable after

it has been in force for a stated period *during the lifetime of the insured*. Because of the construction placed by the courts on the first type of clause, holding that rights under the policy were not fixed by the death of the insured, many companies have adopted this modified wording. The effect is that, if death occurs within the specified period, the claimant cannot gain any advantage by postponing notification or claim until after the contestable period has expired.

A third type of clause provides that (with the exceptions already noted)

. . . this policy shall be incontestable after one year from its date of issue unless the insured dies in such year, in which event it shall be incontestable after two years from its date of issue.

This clause is more favorable to the insured than a straight 2-year clause, since the policy becomes incontestable if the insured is still living at the end of 1 year. It is also more favorable to the insured than the second type of clause, since, under the third type, in event of death within the first year, a disputable claim could be withheld until the end of the second year when the policy would be incontestable unless the company had obtained a rescission. The company is, however, partly protected by the fact that in such a case the claimant would have to wait at least a year.

The tendency in recent years has been to make the incontestable clause more stringent by adopting a 2-year period instead of a 1-year period. The majority of the principal companies now use a 2-year clause, many of them having changed from a 1-year clause.

An important question as to the scope of the incontestable clause was decided by the New York Court of Appeals in 1930.³ The company desired to issue policies restricting the coverage by excluding entirely the risk of death "as a result of service, travel, or flight in any species of air craft except as a fare-paying passenger." The Superintendent of Insurance refused to approve

³ *Metropolitan Life Insurance Company v. Superintendent of Insurance*, 252 N.Y. 449.

such a provision on the ground that it was inconsistent with the requirements of the New York law that policies should be incontestable after 2 years except for specified reasons as described above and not relating to participation in aeronautics.

Such a contention is unsound. The law does not require the company to assume any and every hazard or none at all. It does require that, *having contracted to cover a specified hazard*, it shall not, after a certain period, contest its contract. If the policy excludes a particular risk and if the insured dies from that cause, the company, in refusing payment, is not contesting the policy since no contract exists or ever existed to cover that contingency. The court held that there was nothing in the law inconsistent with the issue of such a restricted policy, saying,

. . . the provision that a policy shall be incontestable after it has been in force during the lifetime of the insured for a period of two years is not a mandate as to coverage, a definition of the hazards to be borne by the insurer. It means only this, that within the limits of the coverage, the policy shall stand, unaffected by any defense that it was invalid in its inception, or thereafter became invalid by reason of a condition broken.

This decision is important since it defines the meaning of the incontestable clause and clarifies the right of the company to issue a policy under which there is restricted coverage during the whole lifetime of the contract.

Sometimes information is received by the company, after the issue of a policy, which shows that facts have been misrepresented by the insured. In such cases the company may, within the period of contestability, demand that the policy be returned and rescinded, the premiums paid usually being refunded.

Misstatement of Age. An adjustment made because of misstatement of age does not come within the operation of the incontestable clause. Most states have a standard policy provision requiring that in event of a misstatement of age the amount of the policy shall be automatically altered to such amount as would have been purchased at the true age by the premium actually paid. This is a good practical rule. Frequently errors

in age are not discovered until the death of the insured, which is usually many years after the date of the application. If such errors in age were within the scope of the incontestable clause, it would be necessary to demand proof of age in all cases before a policy could be issued. While this might, in any case, be a desirable practice, and one which would save many claimants a good deal of trouble, many persons would be unable to furnish such proof, and the requirement would, in some cases, prevent the issuance of the policy. It is, therefore, not usual to call for proof of age at the time of issue. If proof is available, it is to the advantage of all concerned that it be submitted during the lifetime of the insured so that age may be formally admitted. Frequently, because of ignorance or carelessness, incorrect information is given at the time a claim is made, thus causing unnecessary trouble and delay in settlement.

Suicide. The risk of death by suicide of the policyholder, whether sane or insane, is usually specifically excluded either during the first year or for the period of contestability, with the provision that, in event of suicide within the period specified, payment will be limited to a refund of the premiums paid. This provision is independent of the incontestable clause. In view of the decision in the Metropolitan case referred to above the companies probably could, in some states at least, exclude the risk of suicide entirely. There is, however, no reason to exclude the risk altogether. The possibility of future suicide is one of the hazards of life, and deaths from suicide are included in the mortality table. To eliminate the risk entirely would materially reduce the value of a life-insurance policy and might work great hardship on dependents. There has been, however, a tendency to increase from 1 year to 2 years the period during which suicide is not covered. Normally, suicide is an element in the death rate the same as any other cause of death, and the object of the suicide clause is merely to protect the company against fraudulent cases, *i. e.*, applications made in contemplation of suicide.

War Clauses. For many years it has been customary not to include any restrictions as to war service in policies on the lives of civilians issued in time of peace. Thus, possible extra hazards

which might arise because of *future* wars have generally been disregarded. This was justified on various grounds. It is, in general, undesirable to place any *unnecessary* qualifications or limitations on the liability of the company to pay the amount of insurance at death since any such limitations tend to defeat the purposes for which insurance is taken. Also the risk assumed, in time of peace, is not very great since, normally, a large proportion of the policyholders of a company would not be liable for active service in event of war. Experience in both World Wars showed that, while the additional death claims payable as a result of war under policies formerly issued without any restriction were quite substantial in amount, they formed only a small percentage of the *total* death claims payable and had only a comparatively slight effect on the total death rate. In fact, in many companies, the *over-all* death rate in the war years was as low, or lower, than in the previous years of peace.

In view of the development of the atom bomb, directed missiles, and other methods of scientific mass destruction, and the fact that these would be directed against civilians as well as those in the armed forces, with possibly catastrophic results, it is sometimes suggested that all life-insurance policies being issued now should exclude liability for war-caused deaths. There is, of course, some possibility that, in event of another war, companies would sustain disastrous losses, sufficient to affect their solvency, from the mass destruction of civilian populations. The general view, however, is that this is a risk which must be taken. The general exclusion of liability for war deaths in policies issued in time of peace seems, for the present at least, to be extremely improbable.

In time of war the situation is entirely different. When war is imminent or has actually been declared the company cannot assume the war hazard at the regular rates of premium since there would, in that case, be a great increase in the demand for insurance from those who had been or were liable to be called into the armed or auxiliary services.

The most obvious apparent course for the company to follow is to charge a suitable extra premium in such cases. In previous wars policies were, in fact, available in a number of companies on

that basis for nearly all categories of service except those which were extremely hazardous and for which the necessary extra premiums would have been prohibitive. Most companies in the United States have felt, however, that because of the unknown elements in the risk it was impracticable or impossible to determine rates of extra premiums which would be safe for the company and satisfactory to the policyholder. In these companies and in the others, when the applicant was not willing to pay the extra premium required, the situation was met by limiting or excluding the extra risk by using a *war clause*.

In a country which is actually in the war zone and where *every-one* is subject to substantial additional hazards (as in Great Britain) a war clause is placed in every policy by which it is provided that the company is not liable in event of death—whether in service or as a civilian—resulting from war, unless an extra premium has been paid. During the Second World War the civilian population of the United States and Canada was not subject to war hazards, except to a very small extent (as from possible enemy bombing or sabotage), and, in general, the war clauses limited liability only in respect of those in the services or the auxiliary services or of those civilians traveling outside the *home areas* (*i.e.*, the United States, Canada, and sometimes Newfoundland and Alaska). In some companies the war clause was included in all policies issued irrespective of age or sex; in some, only in policies within certain age limits.

So far as service in the military or naval forces, or auxiliary units serving with these forces, is concerned, the war clauses used were of two main types, distinguished as *status* clauses and *result* clauses.

Under a status clause the company, generally speaking, assumed no liability (irrespective of the cause of death) while the insured was in service outside the home areas. Under a result clause the liability was eliminated only if death was the result of war. In either case in event of death in circumstances excluded by the war clause it was usually provided that the company would refund the premiums paid, less dividends, with interest.

The justification for a *status* clause is that in the case of many deaths while in service it may be difficult or impossible to determine whether or not they resulted from war, particularly where death occurred outside the home areas. A status clause, however, may be considered too rigorous for application *within* the home areas where few of the deaths which occur are likely to be the *result of war* although they may be the *result of service* (such as accidental deaths in training or in maneuvers).

Many companies adopted a status clause under which full coverage was given within the home areas *except* where death was the result of service outside the home areas (and occurred within a stated period after return) but which excluded all deaths while in service *outside* the home areas.

Because of the diversity of practice, a committee of the National Association of Insurance Commissioners recommended, in June, 1942, a *uniform* war clause under which all deaths in service outside the home areas were excluded while, within the home areas, full coverage was given *except* where death was the result of action by or against the enemy *and* as a result of service in the forces of any country at war. No substantial uniformity was attained, however.

In regard to civilians the usual provision in the war clause (which was included in *all* policies) was that the company was not liable in event of death as a result of war, *outside* the home areas and *within the first 2 years* after issue. There was no corresponding *time* limitation in regard to *service* deaths, so that the exclusion in that case operated as long as the policy was in force, unless voluntarily removed by the company.

After the end of the Second World War the companies not only discontinued the inclusion of war clauses for new policies but, in most cases, canceled all war clauses in existing policies. Thus practically all insurance now in force is without any limitation or restriction on the companies' liability in event of a future war so far as payment of the face amount of the policy (and other *life-insurance* benefits) is concerned.

With regard to the "special benefits" (*i.e.*, provisions for benefits in event of total-and-permanent disability or for "double in-

demnity" in event of death from accidental means) the policy generally provides (at all times) for either the *termination* or the *suspension* of the special-benefit provision while the insured is in military or naval service in time of war. In addition, the extra risks arising from possible war service may be specifically excluded from these provisions. Where the disability provision is *terminated*, reinstatement after the conclusion of war service is subject to evidence of insurability but usually the company would take a very liberal attitude in regard to reinstatement, declining to reinstate only where disability actually exists or seems likely to occur as a result of war service.

Suspension of coverage during war service does not give the company the same protection as termination but, from a practical standpoint, is considered preferable and sufficient by many companies. In that case the benefit provisions are automatically reinstated upon payment of the additional premiums. The company would, of course, not be liable after reinstatement for claims where disability was caused or accidental death occurred during the period of suspension.

Aviation. During the Second World War the companies also usually included a provision either separate or in the war clause itself, excluding liability where death occurred as a result of travel or flight in, or descent from, any species of aircraft *except* as a result of travel as a fare-paying passenger in a licensed passenger aircraft provided by an incorporated carrier on a regularly scheduled service and route. For some years most companies have been willing to assume in policies issued in time of peace the risks involved in regular air travel.

Air travel is now so general that whatever risks are involved are applicable to a very substantial proportion of all persons insured and may reasonably be regarded as a part of the normal mortality rate and thus covered by the regular premiums. The situation is, of course, different where some special hazard exists as in the case of pilots, crew members, or other persons who are subject to a definite additional risk from aviation. In such cases the company may either charge a suitable *extra premium* or may modify the contract by an *exclusion clause*, eliminating liability

for death resulting from aviation. This subject is dealt with more fully in a later chapter. It may, however, be remarked here that *any* exclusion of risk is more or less undesirable since it may defeat the purpose of the policy and may thus cause serious dissatisfaction in the event of a claim which is not payable. The difficulty is that, in some such cases, the extra premium which would be required may be more than the applicant is willing to pay.

Optional Modes of Settlement. Practically all policies now issued which are, by their terms, payable in a single sum contain provision for optional modes of settlement. It is customary to permit these optional settlements either at death or maturity or, within suitable limitations, upon surrender of the policy. The usual options offered are (1) payment of interest, annually or otherwise, at a specified minimum guaranteed rate upon the policy proceeds during the lifetime of the beneficiary or for some other period fixed by the election of the insured (or of the beneficiary at the death of the insured) together with payment of the principal sum at the end of that time; (2) payment of equal instalments, annually or otherwise, including both principal and interest, for a fixed period of years; (3) payment of equal instalments for a fixed period of years as in (2) but with continuation of such instalments to the beneficiary for life if still living at the end of that time, the amount of the instalments depending not only on the length of the fixed period as in (2) but also on the age and sex of the beneficiary; (4) payment of instalments of a selected amount until the principal sum is exhausted, interest being credited annually on the unpaid balance of the insurance; (5) application of the proceeds of the policy to the purchase of a life annuity to the beneficiary at a rate slightly more favorable than the rates in use at the date of the settlement for ordinary cash purchasers.⁴

It is generally provided that when the settlement is to take effect, a *supplementary contract* shall be issued in exchange for

⁴ For full details of the terms of the optional settlements see specimen policy in Appendix B.

the original policy, such supplementary contract setting forth the terms of the special settlement. Sometimes the settlement is provided for by endorsement of the policy, which is retained by the beneficiary after it becomes payable.

The optional settlements are usually "participating." In the case of option (1) the effect of participation is to increase the rate of interest received by the beneficiary. Some companies allow a smaller "excess rate" if the principal amount is subject to withdrawal at the option of the payee. In the case of options (2) and (3) the "capital" (*i.e.*, principal sum) is gradually being paid out, since each instalment consists in part of principal and in part of interest. The amount of each guaranteed instalment is increased by the excess interest earnings on the remaining capital, and the actual total instalment, therefore, decreases as the remaining capital decreases provided that the total interest rate remains the same. Under option (3) the participation in excess interest usually extends only to the "instalments certain." Under option (4) the effect of participation in excess interest earnings is to increase the period during which the stated income will be paid. This option differs from option (2) since each payment is of the selected amount, whereas under option (2) the total amount of each payment, including excess interest (or "interest dividend"), normally decreases. Under option (4) there is an income of fixed amount for an indefinite period, while under option (2) the period of payment is guaranteed but the actual amount of the income depends on the excess interest rate, or "dividend," as well as on the net amount of the principal.

The use of these alternative modes of settlement has greatly increased in the last 25 years. The value of such settlements in providing a safe and convenient method of investment, in conserving the proceeds of life-insurance policies, and in ensuring that the original intentions of the insured will be carried out, as well as the many special uses and purposes which the optional settlements can be made to serve, have been recognized in a rapidly increasing degree. At the present time, a substantial proportion of new policies is issued with provision for settlement by

one of the optional modes. The proportion so issued appears to be increasing.

If the optional settlement is selected by the insured himself when he applies for insurance, the policy when issued sets forth by endorsement the details of the special settlement elected. In many cases, whether or not an election was made at the time when the policy was issued, an election is subsequently made by the insured, while in other cases election is made by the beneficiary at the time the policy becomes payable. When the election is made by the person insured, the object is usually to ensure that the principal sum will not be lost by unwise investment or speculation on the part of the beneficiary. Consequently, unless the right is specifically given to the beneficiary to elect the method of payment, the beneficiary must accept the mode of settlement chosen by the insured. The majority of elections of optional modes of settlement are of this nature, *i.e.*, without the right to the beneficiary to elect the method of payment of the proceeds or to commute future payments at any later date after the settlement has commenced. For this reason, among others, a previously elected settlement should be reviewed from time to time and any desirable changes made, so that the settlement will be suitable after the insured's death. Sometimes limited rights of surrender are given, such as the right to withdraw up to a specified amount of principal in any one year.

Provision may also be made for the continuance of interest or income payments certain to a secondary payee after the death of the primary payee or it may be provided that any remaining principal will be paid to the beneficiary's estate or as otherwise directed in the election of the settlement.

The optional settlements are primarily intended for the benefit of payees and beneficiaries unaccustomed to dealing with the investment of funds. In most companies they are not available if the beneficiary is a corporation, a partnership, or an association. These special settlements are not appropriate for certain special classes of policies which provide for payment in a particular form, such as family-income policies, although, if there is an op-

tion to take a single-sum settlement, the usual optional settlements may also be made available.

An important point in regard to the optional settlements elected by the insured is that under most state laws payments under the supplementary contract are not subject to legal process or attachment for the claims of creditors of the beneficiary (except claims for "necessaries"). In New York such payments are not attachable "if the parties to the trust or other agreement so agree."⁵ The usual provision in the supplementary contract to cover such an agreement is that "benefits accruing hereunder shall not be transferable nor subject to commutation or incumbrance nor to legal process except in an action to recover for necessities." This is generally known as the "spendthrift clause."

Frequently applicants desire provision for settlements which are complicated by the nomination of many successive or contingent payees, such as children and grandchildren, or which would be contrary to law. Sometimes the settlements requested would extend almost indefinitely into the future, or would involve the distribution of interest payments or instalments among beneficiaries of different classes, in amounts so small as to render the method of settlement unsuitable. Any settlement which would render the principal sum or any part of it inalienable for a longer period than is allowed by the common-law "rule against perpetuities" might not be permitted by the courts. This rule forbids the inalienable settlement of property for a longer period than the duration of lives in being at the date of the settlement and a further period of 21 years.⁶

Rules have been adopted by some companies specifying the limits within which elaborations and extensions of the optional settlements must be kept.

Until the end of 1938 optional settlements were usually based

⁵ Personal Property Law, Sec. 15.

⁶ The usual interpretation of the rule against perpetuities, *viz.*, that the maximum period runs from the *date of settlement*, is not invariably accepted. Some companies hold that the period of limitation runs from the date of the policy or of the later endorsement of an election of an optional settlement.

on a guaranteed interest rate of 3 per cent (with excess interest dividends). At that time, because of substantial reduction in interest earnings, some companies revised their policy contracts, reducing the guaranteed interest rate to $2\frac{1}{2}$ per cent with corresponding reductions in instalment settlements. Starting in 1943 several companies again reduced the guaranteed rate in new policies to 2 per cent, and many companies have now adopted $2\frac{1}{2}$ per cent. In the case of option (3)—payments certain with continuation for life—there is also a mortality element, because of the deferred life annuity. Originally this option had been based on the American Experience Table, no distinction being made in the instalments for male and female beneficiaries. Later it was found necessary to make such a distinction and to use an annuitants mortality table. This, of course, resulted in much lower instalments, per \$1,000 of proceeds, particularly for female beneficiaries.

Administration of Policy Proceeds by a Trust Company. In certain circumstances it may be more advantageous to make the policy proceeds payable to a trust company as trustee for the beneficiary, thus creating a *life-insurance trust*, rather than to make use of the optional settlements. The chief advantage of such an arrangement is that a trust company will permit more flexibility in the details of the settlement and will assume discretionary powers, while the life insurance company generally will not.

The trust securities must yield a somewhat higher rate than the rate allowed by the insurance company in order to give the same result since the trust company charges a fee, while the insurance company makes no direct charge, merging the extra expense of these settlements in the general expenses of the company. Trust-company fees depend upon the amounts involved, being proportionately less for large than for small amounts, so that this method of settlement is seldom suitable except where the amount involved is fairly substantial.

A much more important point than the relative yield is that, where the proceeds are left with the insurance company, the fund is merged with the entire assets of the company, so that the risk

of capital loss is practically eliminated whereas such risks are present in the case of any group of earmarked securities forming a trust. An important advantage of a trust settlement is the greater flexibility obtainable, including the possibility of exercising discretionary powers. Where this is a vital point, it may be that administration by a trust company is the only possible choice. In view, however, of the variety of forms of settlements offered by the companies almost all ordinary requirements can be met by use of the optional settlements. Unless the amount of insurance is substantial, the balance of advantage would appear to be with the optional settlements, but in some cases the trust company can furnish a type of service which the insurance company is not able or willing to offer.

In connection with trust-company administration of life-insurance proceeds the expression "unfunded trust" has been adopted where a trust instrument is executed in advance of the maturity of the policy by the death of the insured. In that case the trust company is named in the policy as the beneficiary, and the details of the settlement which is to take effect at the death of the insured are set forth in a separate trust deed. At least one large trust company has organized a special department to cooperate with life insurance companies in creating unfunded trusts, such cooperation being mutually advantageous.

The expression "funded trust" usually refers to a trust fund established for the purpose of paying life-insurance premiums and has no necessary relation to the method of settlement of the proceeds of the policies.

MISCELLANEOUS POLICY PROVISIONS

The Contract. Many state laws require that the policy shall constitute the entire contract between the company and the person insured. A copy of the application for the insurance is always either endorsed upon the policy or attached to it, being incorporated by reference, and thus forms a part of the contract. It is necessary from the company's point of view that the application be included in the contract, since the company must rely

upon the statements made by the applicant, which are the foundation of the contract. Most companies now attach to the policy a photostatic copy of the application. Statements made by the insured which are not contained in the application may not be used by the company in defense of a claim under the policy. Hence, it is essential that all matters having a bearing on insurability be covered in the application (or by supplements thereto, duly incorporated in the policy) and not in other papers or orally.

From the insured's point of view it is desirable that the policy constitute the entire contract, so that he may be protected against the possible effect of his ignorance of certain matters of which he might otherwise be deemed to have knowledge, such as the terms of the charter of the company.

Some states require the policy to contain a provision that, in the absence of fraud, statements made by the insured in the application and to the medical examiner shall be deemed to be representations and not warranties. This means that statements by the insured need only be *substantially*, rather than *literally*, true.⁷

Rights of Beneficiary. The policy usually provides that if a beneficiary dies, his or her interest shall revert to the insured, unless otherwise provided by a special clause endorsed on the policy. Also, it is generally provided that the insured is entitled to all rights, benefits, options, and privileges without the consent of any beneficiary unless an irrevocable beneficiary has been named. This includes the right to change the beneficiary. Largely because of the many deaths from automobile accidents, it has become fairly common to provide that the beneficiary's interest does not vest in case of his death within a specified time after the insured's death or until receipt of proof of his death subsequent to that of the insured or, in at least one company, until payment has been made. This is often referred to as the "common-disaster" provision.

⁷ This rule is considered at greater length in Chap. XX.

Loans. The policy provides that the company will grant, at a specified rate of interest, such loan on the security of the policy as can be secured by the cash-surrender value. Most contracts issued since 1934 provide that the granting of a loan may be delayed, at the company's option, for a period of 6 (or, in some cases, 3) months, and many companies previously had such a provision.⁸

State laws require a *specified* rate of interest, which is thus fixed and guaranteed for the entire duration of the contract irrespective of fluctuations in interest rates elsewhere. The usual rate specified in contracts issued for many years prior to 1939 was 6 per cent, but because of a change in the New York law there was a general change by most of the principal companies to 5 per cent payable at the end of the loan year for contracts issued after 1938. In view of the small average amount of policy loans and the consequently high rate of expense, as well as for other reasons, 6 per cent was not an excessive rate. In the case of very small loans, such as those made to pay premiums, expenses may consume the entire amount paid for interest. There has been a good deal of misunderstanding on this question, and it is not usually realized that no other lender can or would make loans in the amounts and on the terms guaranteed in life-insurance policies. It is generally considered impracticable for the company to vary the rate according to amount of loan, as any other lender would do. The enforcement by law of an unduly low rate would be unfair to the whole body of policyholders, the great majority of whom do not borrow on their policies, and would operate to increase the cost of insurance to everyone.

Policy loans are likely to lead to lapse and thus to defeat the purpose of the insurance. They are, in a sense, a necessary evil of the level-premium plan of insurance. The asset (cash value) is there; and if the company would not lend, a loan could be made elsewhere or the policy could be surrendered outright. No *necessity* of repayment exists, and a large proportion of such loans are repaid only upon the termination of the contract. In spite

⁸ See p. 200.

of the apparently high interest rate and the absence of risk, most companies discourage policy loans.⁹

Dividends. Participating policies issued in the United States now invariably contain a provision that dividends shall be allotted annually. For many years prior to 1907 nearly all the policies of some of the larger companies provided for participation in surplus earnings only in the event of survival to the end of a specified period of years, usually 5, 10, 15, or 20. These deferred-dividend policies are no longer issued and are now illegal in practically all states.¹⁰

Assignments. Life-insurance policies, being personal property, are freely assignable and are frequently assigned. If the company has notice of an assignment, it is responsible for making payments under the policy only to the persons entitled to receive them. In order to simplify payments in such cases the company may insert a statement in the policy that notice of any assignment must be accompanied by the original assignment or by a certified copy thereof. Such a provision has no effect on the rights of an assignee. Where a sufficient legal notice has been given, the company may not ignore an assignment, although no copy of the assignment has been filed. The policy usually also states that the company assumes no responsibility as to the validity of assignments, but such a statement is unnecessary. The company is bound to accept such notice of assignments as is given to it but is in no wise bound to examine assignments or to give any opinion as to their legal effect until the time for payment comes. At that time the company must examine all claims under the policy and must then determine to whom the policy is legally payable. If it cannot do so, the amount payable may be paid into court or held in escrow pending the outcome of litigation.

Powers of Agents. An important provision is that which notifies the policyholder what persons are empowered to modify the terms of the contract or to waive any of its requirements.

⁹ Policy loans are further discussed in Chap. XII.

¹⁰ See Chap. VIII for a full discussion of dividends and policy provisions in regard to dividends.

The persons who have such power are generally known as "executive" officers. The executive officers usually include the president, vice-president, and secretary.

The importance of this clause lies in the notification which it conveys of the limits of the apparent powers of soliciting agents, medical examiners, cashiers, clerks, and other subordinate representatives of the company. It may happen, for example, that an agent of a life insurance company takes it upon himself to authorize an extension of the time for paying a premium or to waive a lapse by accepting an overdue premium. Such action is usually beyond his powers and may be repudiated by the company in view of the notification contained in the policy.

The policy provisions which have been considered in this chapter comprise most of those to be found in policies issued at the present time exclusive of provisions for disability benefits or double indemnity, which are dealt with in Chap. XIV, or provisions which have been discussed elsewhere. Other provisions will be found which are generally in the nature of additional privileges or benefits to the person insured.¹¹

STANDARD POLICY PROVISIONS

The following are the *standard policy provisions* which must be contained at present (1951) in life policies issued by companies incorporated in the state of New York. These are the provisions required in ordinary (*i.e.*, not group or industrial) policies. The law does not require any specified wording, but the wording adopted must be approved by the Superintendent of Insurance. These provisions are similar to the requirements of the laws of many other states. The company may adopt more liberal provisions.

STANDARD PROVISIONS—NEW YORK INSURANCE LAW

1. A provision that the insured is entitled to a **grace period** either of thirty days or of one month within which the payment of any premium after the first may be made, during which period of grace the policy

¹¹ Specimen form of ordinary-life policy will be found in Appendix B.

shall continue in full force, but if a claim arises under the policy during such period of grace before the overdue premiums or the deferred premiums of the current policy year, if any, are paid, the amount of such premiums, together with interest, not in excess of six per centum per annum, on any overdue premium, may be deducted from any amount payable under the policy in settlement.

2. A provision that the policy shall be incontestable after it has been in force during the lifetime of the insured for a period of two years from its date of issue, except for non-payment of premiums and except for violation of the conditions of the policy relating to military or naval service; and at the option of the insurer, provisions relating to benefits in the event of total and permanent disability, and provisions which grant additional insurance specifically against death by accident or accidental means, may also be excepted.

3. A provision that the policy shall constitute the entire contract between the parties, or, if a copy of the application is endorsed upon or attached to the policy when issued, a provision that the policy and the application therefor shall constitute the entire contract between the parties.

4. A provision that if the age of the person insured has been misstated, any amount payable or benefit accruing under the policy shall be such as the premium would have purchased at the correct age.

5. A provision that the insurer shall annually ascertain and apportion any divisible surplus accruing on the policy.

6. A provision specifying the cash surrender values and nonforfeiture options available under the policy in the event of default in a premium payment after premiums have been paid for a specified period together with a table showing, in figures, the options so available, and also the loan values, if any, available during each of the first twenty years after the issuance of the policy. Such options shall include a cash surrender value, and shall conform with the requirements of subsection one of section two hundred eight or two hundred eight-a.

7. A provision that after three full years' premiums have been paid, the insurer issuing the same will, at any time while the policy is in force, advance on proper assignment or pledge of the policy and on the sole security thereof, at a specified rate of interest, not exceeding four and eight-tenths per centum per annum if payable in advance or the equivalent effective rate of interest if otherwise payable, a sum equal to, or at the option of the person entitled thereto less than the amount required by section two hundred eight-b under the conditions

specified thereby; and that the company may deduct from such loan value (in addition to the indebtedness deducted in determining such value) any unpaid balance of the premium for the current policy year; and that if the loan is made or repaid on a date other than the anniversary of the policy, the insurer may collect interest for the portion of the current policy year on a pro rata basis at the rate of interest specified in the policy. The policy may further provide that if the interest on the loan is not paid when due, it shall be added to the existing loan, and shall bear interest at the same rate; and may further provide that if and when the total indebtedness on the policy, including interest due or accrued, equals or exceeds the amount of the loan value thereof at such time, and if at least thirty days' prior notice shall have been given in the manner provided in section one hundred fifty-one, then the policy shall terminate and become void. The policy shall also contain a table showing the loan values, if any, available during each of the first twenty years after the issuance of the policy. This provision shall not apply to term insurance.

8. In case the proceeds of the policy are payable in instalments or as an annuity, a table showing the amounts of the instalments or annuity payments.

9. A provision that the policy will be reinstated at any time within three years from the date of default, unless the cash surrender value has been exhausted by payment or unless the period of extended insurance has expired, upon the application of the insured and the production of evidence of insurability, including good health, satisfactory to the insurer and the payment of all overdue premiums and the payment or reinstatement of any other indebtedness to the insurer upon said policy with interest at a rate not exceeding six per centum per annum compounded annually.

The law provides that any of the foregoing provisions not applicable to single-premium or nonparticipating or term policies shall, to that extent, not apply.

The New York law also requires that no policy shall contain any provision which excludes or restricts liability for death caused in a certain manner or occurring while the insured has a specified status, except the following provisions or provisions which in the opinion of the Superintendent are substantially the same or more favorable to policyholders:

Provisions excluding or restricting coverage in the event of death occurring

(1) Inside the forty-eight states of the United States, the District of Columbia or the Dominion of Canada as a result of service in (a) the military, naval or air forces of any country at war, declared or undeclared, or (b) any ambulance, medical, hospital or civilian non-combatant unit serving with such forces, either while serving with, or within six months after termination of service in, such forces or units.

(2) Outside such states, district, and dominion while in such forces or units.

(3) Within five years from the date of issue of the policy, as a result of war, declared or undeclared, when the cause of death occurs while the insured is outside the forty-eight states of the United States and the District of Columbia, and the Dominion of Canada, and the insured dies either outside such states, and district and dominion, or within six months after returning thereto.

(4) As a result of suicide within two years from the date of issue of the policy.

(5) As a result of aviation under conditions specified in the policy.

(6) Within two years from date of issue of the policy as a result of a specified hazardous occupation or occupations, or while the insured is resident in a specified foreign country or countries.

In the event of death as to which there is an exclusion or restriction pursuant to (1), (3), (4), (5), or (6) above, the company shall pay an amount not less than the reserve for the policy and for any dividends standing to the credit of the policy, less any indebtedness.

In the event of death as to which there is an exclusion or restriction pursuant to (2) above, the company shall pay the greater of (a) the reserve less indebtedness or (b) the premiums charged less dividends paid or used in the payment of premiums and less any indebtedness.

The foregoing limitations on restricted coverage do not apply to any provision in a life-insurance policy for additional benefits in the event of death by accident or accidental means (double indemnity).

CANADA

From 1910 until 1932 the Dominion Insurance Act required standard policy provisions. Because of decisions in regard to dominion jurisdiction (as explained in Chap. XIX) the terms of policy contracts of domestic companies since that time have been governed by the laws of the several provinces. The Dominion Acts of 1932 contain no reference to policy provisions. All provinces except Quebec have enacted in substance the provisions of the Uniform Life Insurance Act.¹² This Act does not require the policy to contain specific standard provisions as in the United States, but the matters usually covered by such standard provisions (as well as many other matters which, in the United States, are determined by the general statute law rather than by a special insurance law) are provided for in the law itself. The uniform law provides, *inter alia*, (1) that no term or condition of a contract of insurance which is not set out in full in the policy or in a document or documents in writing attached to it, when issued, shall be valid or admissible in evidence to the prejudice of the insured or a beneficiary; (2) that any conscious failure to disclose, or any misrepresentation of, a fact material to the contract, on the part of the insured or of the person whose life is insured, shall render the contract voidable at the instance of the insurer; (3) that the statements made by the insured or the person whose life is insured in the application and on the medical examination, except fraudulent statements or statements erroneous as to age, shall be deemed to be true and incontestable after the contract has been in force for 2 years during the lifetime of the person whose life is insured; (4) that where the age of the person whose life is insured is understated in the application, the insurance money shall be reduced to the amount which would have been payable in respect of the premium stated in the policy at the correct age, according to the tables of rates of premium of the insurer in force at the time of issue of the policy; in event of overstatement of age, if the policy does not provide for a corresponding increase of the amount of insurance, the excess premiums

¹² See p. 484.

are returned; (5) 30 days of grace for payment of premiums; (6) provisions relating to the rights of beneficiaries; (7) that the policy may be reinstated within 2 years from lapse on evidence of good health and insurability; in event of reinstatement the period of contestability and the period specified in the suicide clause run from the date of reinstatement.

CHAPTER X

SELECTION OF RISKS

The approval or rejection of an application for insurance is usually based upon (1) the statements made by the applicant in the application and to the medical examiner, (2) the report of the medical examiner, and (3) an independent *inspection* of the risk.

Most companies instruct their agents to solicit only those persons who are believed to be eligible for insurance. The agent's reliability in this respect is very important, as in most cases he is the only person connected with the company who has personal knowledge of the applicant. Where eligibility for insurance is in any way doubtful, some companies, in order to save unnecessary expense and trouble, require the agent to submit a preliminary statement setting forth the facts of the case and the grounds upon which doubt as to insurability is based. Some companies require such a statement in all cases where an application has formerly been declined, postponed, or accepted at other than standard rates. The value of the agent's selection depends, of course, on the character and reliability of the individual agent. Since the agent's remuneration depends upon the amount of insurance he obtains, it is not to his interest to withhold applications if there is any chance of a policy's being issued, and the extent of such selection as may be obtained in this way is limited.

If the agent believes that the prospective applicant is an insurable risk, he obtains from him a written application for insurance. This written application is an offer to the company, the acceptance of which by the company, followed by compliance with any necessary subsequent condition (such as the delivery of the policy and payment of the first premium during the continued good health of the applicant), is the basis of the formal contract of insurance.¹

¹ See Appendix G for specimen of an application blank.

The questions in the application are of great importance and should cover everything which has a bearing on insurability. In most states the law provides that the policy constitutes the entire contract between the company and the insured. If the company wishes to make the application a part of the contract, it may do so provided that a copy of the application is attached to the policy when issued and incorporated in the policy by reference. This is always done since the answers to the questions in the application (including the answers made to the questions asked by the medical examiner) are the basis upon which the contract rests. Information not asked for need not be volunteered by the applicant unless of such a nature that its concealment would amount to bad faith. Information on certain points such as habits and finances is better obtained from independent sources than by direct questioning of the applicant, and such matters are therefore not usually completely covered in the application.

The Application. *General Questions.* The application is generally divided into two parts. The first of these covers non-medical information; the second consists of answers to questions put by the medical examiner.

The statements made by the applicant in the first part of the application cover the particulars necessary to identify him, such as his name, place of present and any former residence, and place and date of birth. Former residences are required in connection with the inspection of the risk, particularly if there has been a recent change of residence. The age is important, since the amount of the premium depends upon it.

The statement of the applicant as to his age (date of birth) is generally accepted without proof. In fact it is not usual to call for proof of age at any time unless some reason exists to doubt the correctness of the applicant's statement. This may occur at the time the policy becomes payable, in which case evidence of the correct date of birth will then be required before any payment is made. Many applicants have no means of proving their ages, and there are, undoubtedly, many misstate-

ments of age (intentional and unintentional) that are never detected.

Further questions in the first part of the application cover the applicant's occupation and the nature of his specific duties, as well as any change of occupation. The applicant is also required to give particulars of any aviation activities other than passenger flying on regularly scheduled air lines; if there is any unusual aviation hazard a supplementary form giving details is generally required. The possibility of foreign residence is covered by another question.

The application also contains information as to the insurance history of the applicant. This includes details of all insurance that is already in force on his life, whether in the same or in other companies, and information as to whether any company has ever declined to issue a policy on his life or has offered special terms for doing so and whether any other negotiations for insurance are pending or contemplated. The amount of insurance in force and applied for is an important element in the selection of risks since overinsurance is definitely an extra hazard.

The foregoing information, together with a statement of the amount of insurance applied for, the plan upon which it is to be issued, the name of the beneficiary or person to whom the insurance is to be paid, and the respective rights of the insured and beneficiary as to control of the policy complete the first part of the application. This may be supplemented by an agreement that no persons other than certain specified executive officers of the company have power to alter any of the terms of the policy, if issued. The signature of the applicant is generally witnessed by the agent, who vouches for him from his personal knowledge.

Statements to the Medical Examiner. The statements made by the applicant to the medical examiner constitute the second part of the application.

Statements made by the applicant in answer to questions by the medical examiner cover (1) history of illnesses, diseases, injuries, etc., and information as to physicians consulted; (2) family history; (3) physical condition so far as it is known to the applicant himself. There are also questions covering pos-

sible change of occupation or residence for health reasons and the habits of the applicant with regard to alcohol and drugs.

The applicant's personal health history is of great importance. It is not necessary that details be given of every trivial complaint, but everything that is not so regarded and everything, whether trivial or not, that is recent must be stated, with the names of any physicians consulted. This is necessary in order that the company, if it desires to do so, may refer to any such physician for fuller details that may not be known to the applicant and that may have a bearing on his insurability. Sometimes consideration of the application may have to be postponed because of recent illness until a longer period has elapsed without recurrence. It is not usual to consider an application for insurance in any case where the applicant is actually under treatment for or in process of recovery from any illness.

Inquiry as to the medical history of the applicant is essential. Impairments may exist that would not be discovered by the ordinary medical examination for insurance. Information as to previous illnesses, operations, etc., frequently indicate the necessity for special additional tests or examinations, or for further investigation.

The applicant is required to furnish information as to his family history covering his parents and his brothers and sisters. This information requires the ages and state of health of these persons if living and their ages at death and causes of death if not. There is in addition a specific question regarding tuberculosis or insanity in the family. Family history gives a fairly good indication whether a family is short- or long-lived. The death of parents at ages under sixty is considered an unfavorable feature. In addition, the causes of death may be important. Tuberculosis in parents or in any member of the family has a definite bearing upon the applicant's insurability, particularly if the latter is young and underweight. A high incidence of cardiac or similar deaths in the family history is also unfavorable, and the same is true of a family history of diabetes or cancer. It is not, however, customary to pay any attention to

these specific causes of death in members of the family unless there is more than one death from such a cause.

While the statements to the medical examiner include a question as to habits in the use of alcohol or drugs, it is the practice to rely chiefly upon other sources for this information, particularly the inspection report. The answers to questions on residence and occupation may give significant information as to the health condition of the applicant.

The Medical Examiner's Report. The medical examiner's report covers a complete examination of the applicant, with a check on the important organs of the body: the heart, lungs, etc. The report also contains details which identify the applicant in order to guard against the fraudulent substitution, for the purpose of passing the medical examination, of a healthy person for an unhealthy applicant. The general identification questions also permit the examiner to comment upon the general appearance of the applicant.

Build. The applicant's *build*, i.e., his height, weight, and other measurements, is a very important factor in selection. There are reliable statistics available to show the effect upon mortality of deviations from the average build, both overweight and underweight. The weight should always be taken by scale and the measurements stated accurately. There is a definite relationship between the measurements and the weight, and any weight that is out of line with the measurements requires further investigation.

The following table illustrates the average height and weight by age and sex according to current life-insurance standards.

Deviations from the average weight may be favorable or unfavorable. In general, overweight in a slight degree is a favorable factor at the younger ages, but a definitely unfavorable one at the older ages. Young underweights are not as good risks as the average, but at the older ages the best mortality is experienced among lives somewhat below the average in weight. The measurements of an overweight applicant and the distribution of the excess weight are important. Thus, if the abdominal measurement is less than that of the chest expanded, the case is more

favorable for the same height and weight than if the reverse were true.

AVERAGE WEIGHT ¹

Age	Height							
	5 ft. 0 in.	5 ft. 2 in.	5 ft. 4 in.	5 ft. 6 in.	5 ft. 8 in.	5 ft. 10 in.	6 ft. 0 in.	6 ft. 2 in.
Men								
15	107	112	118	126	134	142	152	162
20	117	122	128	136	144	152	161	171
25	122	126	133	141	149	157	167	179
30	126	130	136	144	152	161	172	184
35	128	132	138	146	155	165	176	189
40	131	135	141	149	158	168	180	193
45	135	137	143	151	160	170	182	195
50	134	138	144	152	161	171	183	197
55 or more. . .	135	139	145	153	163	173	184	198
Women								
15	107	112	118	126	134	142	152	
20	114	119	125	132	140	147	156	
25	117	121	128	135	143	151	158	
30	120	124	131	138	146	154	161	
35	123	127	134	142	150	157	163	
40	127	132	138	146	154	161	167	
45	130	135	141	149	157	164	171	
50	133	138	144	152	161	169	176	
55 or more	133	138	144	153	163	171	177	

¹ For the complete table see "Medical Impairment Study," 1929, Actuarial Society of America and Association of Life Insurance Medical Directors.

Heart, Lungs, etc. Next in importance to the build is the condition of the heart and the circulatory system, the determination of which requires an examination of the heart itself. The examiner will report any unusual heart findings such as murmur

(heart sounds) or enlargement. A murmur may be either *functional* or *organic*. An organic murmur, indicating a permanent defect, is much the more serious. A group of risks suffering from organic heart murmurs will experience mortality greatly in excess of the average. The functional murmur, on the other hand, is not of major significance unless there are other signs of heart impairment. An enlargement of the heart indicates that some impairment exists.

The examiner takes both the systolic and the diastolic blood pressure. The pressure when the heart is in the act of pumping blood is the systolic pressure; that when the heart is at rest, the diastolic. Pressure is measured by an instrument showing the air pressure necessary to stop the flow of blood in the arteries and is recorded in terms of the height (in millimeters) of a column of mercury. The normal blood pressure, both systolic and diastolic, varies with age. Higher-than-normal blood pressure is an unfavorable indication, while very high blood pressure may require declination. The blood pressure has proved to be of increasing importance in the selection of risks since there is good statistical evidence to indicate that higher-than-normal readings are indicative of a higher-than-normal mortality. Low blood pressure, on the other hand, can frequently be disregarded unless it is abnormally low or associated with some other impairment such as tuberculosis. It is frequently associated with underweight and may be simply a characteristic of such cases rather than a definite impairment.

The circulatory system is further tested by the pulse rate. A high pulse rate is definitely a bad sign as is a pulse rate that does not rapidly return to normal after exercise. The regularity of the pulse is also important.

The use of the electrocardiogram and X ray has been helpful in the selection of risks where there is any indication of an impairment of the heart or circulatory system. The X ray, for example, can definitely establish an enlargement of the heart, and the electrocardiogram may verify a suspected heart condition which is not definitely established by the physical examination. These aids to selection are frequently of help in clearing up

doubtful cases and may enable the company to accept a risk that it might otherwise decline.

Examination of the urine is required in all medically examined cases. The urine is examined chemically for the presence of albumin or sugar, and the specific gravity is taken. In many instances a microscopic examination of the urine is made to determine whether or not pus, casts, or blood is present. Any urinary abnormality is indicative of disease of the kidney. Where doubt exists, the company may require several urinalyses to establish whether the condition is temporary or permanent. The presence of albumin, casts, pus, or blood which may be found upon microscopic examination is an unfavorable indication. The presence of sugar may be an indication of diabetes, and in that case it may be desirable to have a blood-sugar tolerance test made. This test will reveal whether the applicant is a diabetic.

In addition to these tests the examiner will carefully check the other organs of the body for evidence of disease or functional disturbance, paying particular attention to any factor or condition that might be related to any previous impairment revealed by the applicant's medical history.

Combinations of impairments may be more serious than would be indicated by a consideration of the impairments separately. This is particularly true of urinary impairments found in combination with a heart condition or high blood pressure and is true to some extent of circulatory and urinary impairments found in connection with overweight. The purpose of the medical examination is to get as complete a picture as possible of the applicant's prospects of longevity.

Mention has been made of such aids to diagnosis as the X ray, the electrocardiogram, and the blood-sugar test. It is sometimes objected that the application of such tests results in an unnecessarily high standard of selection. Such tests are imposed in order to obtain a more accurate appraisal of the risk. They may result in a declination, but they also frequently enable the company to grant insurance in cases which would be uninsurable on the information furnished in a regular examination. How-

ever, these tests cannot be employed in all instances where the company is in doubt, because they are expensive; to require them in connection with small amounts of insurance would be uneconomical. The companies restrict such tests to the larger amounts.

A company writing substandard business ²—as most companies do—must go further in differentiating between the various degrees of impairment if the substandard rating is to be reasonably accurate. This may require more supplementary tests than for standard insurance.

Occupation. The *occupation* of the applicant is important in the selection of risks. Many occupations involve an extra hazard, and in such instances an extra premium may be necessary. The extra death rate in an occupation may arise from greater than normal accident hazard, from work conditions affecting health, or from both of these. For example, the extra death rate of railroad workers is due almost entirely to accidents. The "dusty trades" such as stonecutting furnish a good example of a health hazard. Others are the chemical industries and occupations involving exposure to extremes of heat and humidity. The nature of the *occupation* may also introduce a social-class hazard since the poorer grade workers will normally drift into the poorer paid and less healthful occupations. The insurance company is interested not only in the current occupation of the applicant but also in any previous occupation since there may be a return to the former occupation and since the applicant may have changed from a hazardous to a nonhazardous occupation for health reasons. If the applicant has been in his present occupation for 2 years, this is usually accepted as the basis for rating the case.

Aviation. It is important that the application bring out whether there is or may be any *special* or *unusual* hazard from aviation. Passenger travel on any of the regularly scheduled air lines (including, now, long-distance, transocean flights) is not considered to involve sufficient extra hazard to require payment of an extra premium or any restriction on the company's liability.

² See Chap. XI.

The increased safety of regular passenger flights has reduced the cost of aviation fatalities on the regular lines to an insignificant amount (only a few cents per \$1,000 of insurance), and since use of the regular air lines is becoming more and more general there is no reason to regard such flying as a special risk requiring special treatment or payment of an extra premium.

The situation is different as to applicants subject to other types of flying or aviation hazard. These include pilots and crew members, owners of private planes, and others who operate or travel as passengers in private, company-owned, or other forms of air transport. These miscellaneous special risks have become increasingly numerous. It is important, if such risks are to be granted insurance on safe and equitable terms, that the companies have a satisfactory statistical basis for measuring the extra risk. Such statistics are compiled by the Aviation Committee of the Society of Actuaries and enable the companies to determine suitable rates of extra premiums for various classes of risks.

Formerly, the extra premiums required for many types of aviation risks were so high that the applicant preferred to take a policy with an *exclusion clause* under which the company was liable only for return of premiums with interest in event of death as a result of aviation. Exclusion clauses are still used to some extent, chiefly in connection with the more hazardous risks. They are also used sometimes where, although no extra hazard exists at the date of application, the circumstances indicate a likelihood of its arising later. In general, however, the companies do not favor the use of exclusion clauses, and some companies do not use them at all. Any such limitation on the company's liability to pay the full face amount of insurance in event of death may lead to disappointment and dissatisfaction if the exclusion becomes effective.

It is customary to restrict the amounts of insurance in any or all of the classes subject to special aviation hazards, depending upon the degree of extra hazard. Where there is any indication of an aviation hazard other than passenger flying on scheduled air lines, the applicant is usually required to complete a supple-

mentary aviation blank which will give the company full details as to past and probable future aviation activities as well as to his current flying status.

Residence. If the applicant is likely to be residing in a foreign country where the climate is unhealthful, the company may charge an extra premium to cover this additional hazard if it agrees to assume the risk.

Generally speaking, policies are not issued by United States companies to applicants whose permanent residence is in a foreign country but are issued freely to United States citizens who are temporarily resident abroad. Unless a company has an organization and representatives in another country it may not be able to get full information as to applicants for insurance, and practical difficulties may arise in connection with the settlement of claims. Most United States companies confine their business to the United States (and its territories) and Canada. Some Canadian companies do business in foreign countries, using special premium rates for tropical or semitropical countries where the mortality rates are higher.

General. The general practice of life insurance companies is to issue policies free from all restrictions as to travel, residence, and occupation wherever possible. It is therefore necessary for the companies to obtain information as to any extra hazards which the applicant is likely to incur, be they from occupation, aviation, or residence. In other words, the company can grant a policy free of restrictions at standard rates only if it is satisfied that there is no unusual hazard attaching to the applicant.

The Inspection. In addition to the applicant's physical condition and related factors the company must also consider the financial and "moral" aspects of the case. These are covered by the inspection. In the great majority of cases where the amount of insurance is not large, the inspection consists of a short report by a local correspondent employed either by the insurance company or by some commercial or credit agency. Such a report gives information of a general nature on the health, habits, finances, environment, and reputation of the applicant.³

³ See Appendix I for specimen form of report.

Where the application is for a large amount, it is usual to obtain a more detailed and comprehensive report.

Finances. The question whether the applicant's finances are such as to warrant the amount of insurance applied for is important and must be considered in every case, large or small. As a rule, no question will arise when the total insurance involved is not more than a few thousand dollars, unless the applicant already has insurance which, with that applied for, would appear to be more than he can afford to carry. In such cases further inquiry would be made to verify the facts before a policy was issued. Such questions are more likely to arise in connection with applications for large amounts of insurance and are often very difficult to settle. It is an established fact that overinsurance is a distinct additional hazard, and the company must always be on its guard to prevent the issue of more insurance than is justified by the circumstances of each case. On the other hand, there is naturally some pressure from the agency force to secure the greatest amount of insurance possible. Those responsible for selection cannot take an arbitrary stand but must be prepared to give good reasons for adverse action. The information procured in regard to finances generally includes approximate amount of income, sources of income, probability of increase or decrease in earning power, other resources in property, real or personal, record of bank accounts, previous bankruptcies, reputation as to payment of debts, and other miscellaneous matters. A report on the applicant's general business reputation and character is a necessary part of this element of selection.

The fact that overinsurance is itself an impairment has required the underwriter to disregard the formerly accepted theory that an applicant was entitled to as much insurance as he wanted to pay for. There should be a reasonable relationship between income and the total amount of insurance. Although it is difficult to determine a standard of reasonableness, the *20 per cent rule* has been used as a measuring rod. This rule sets the limit of insurance as that amount which can be purchased on the ordinary-life plan with 20 per cent of the applicant's income. This

gives effect to the age of the applicant and avoids the possibility of loading up on a low-cost plan such as term insurance for the same amount of premium. The rule is merely a guide; while it can be applied flexibly in the case of small amounts of insurance, it probably should be strictly applied where very large amounts are involved, an even smaller percentage of the applicant's income sometimes being used. The high tax rate on high incomes suggests further caution in underwriting large amounts.

While selection on the basis of finances is usually considered by itself, accompanying circumstances frequently link it with other branches of selection. An example is found in risks that, while passable for insurance, belong to the doubtful, or borderline, group from a medical standpoint. Overinsurance on such a group must be viewed with more suspicion than if there had been no medical impairment. The same is true of selection from the standpoint of moral hazard, environment, habits, and occupation.

Creditor insurance affords an example of the special considerations which arise where financial standing is an element in the case. A creditor is entitled to protection against the death of the debtor before the debt is paid and is, in consequence, a legitimate beneficiary. This is so, however, only if the debt is a live business obligation. When the debtor has little or no chance of paying off the loan, the insurance becomes speculative.

Moral Hazard and Environment. Under the heading of moral hazard and environment the inspection report deals chiefly with the habits of the applicant and with his surroundings, mode of life, and general reputation. The company expects the applicant to conform to the normal standards of behavior within reasonable limits.

Habits in the use of alcoholic beverages are important and frequently furnish cause for declination. Such matters can best be covered by the inspector, who is likely to obtain, in doubtful cases, more reliable information than that furnished by the applicant himself. The same remarks apply to the applicant's habits in other matters and to his social environment.

In addition to details of finances and moral hazard the inspec-

tion report furnishes a valuable check on the company's information in regard to the applicant's health. This information should be completely available from the application papers; but often, because of forgetfulness and sometimes from deliberate intention to conceal unfavorable facts, this is not the case. For this reason alone the inspection is an essential feature of selection. It is, in effect, intended to be a complete picture of the risk made by a well-informed and disinterested investigator. In cases involving large amounts it might be said that the inspection report is as important as the medical examination.

Usually it is only from the inspection report that information is obtained on unhealthful living conditions either regional or from unsanitary domicile. Some regions of the United States are unhealthful unless proper precautions are taken to combat the dangers, and it is a common practice to add to reports received from such districts a few questions on sanitation.

Insurance at Extremes of Age. Most applicants for insurance are persons between the ages of twenty and sixty. The amount of insurance written at very low ages and at very high ages is comparatively small. At low ages there is, naturally, not so much demand for life insurance. Persons not of legal age are not competent parties to a life-insurance contract unless they are made so by special statutory enactments, as in the state of New York, where a valid insurance contract may be made with a person fifteen years of age. This is a modification of the law of contract based on the general desirability of enabling such persons to make a legally valid contract for life insurance. In point of fact, many companies now issue ordinary policies on the application of persons as young as ten or even five years of age. Such policies are not illegal even in those states where the law specifically states that insurance contracts may be made with persons not less than some higher age. They are merely *unenforceable* by the company and may be repudiated by the insured who, technically, could claim a refund of all the premiums he had paid, after having been insured for some years, on the ground that he was legally incapable of making a contract. This small technical objection to the issuance of such policies is much

more than offset by the advantage which they offer in the opportunity to establish insurance early in life when health is good and the cost low. It must be noted that these policies on the lives of children are issued on the application of the insured child and not to the parent or other person who will pay the premium. This is necessary since the law in some states prohibits insurance, except as stated below, without the consent of the person whose life is insured. The parent (or other applicant) usually joins in signing the application or, at very young ages, signs on behalf of the insured.

Another type of policy is issued under the terms of laws permitting the insurance of minors for specified small amounts. Such policies may usually be issued at any age from birth upward and do not require the consent of the insured child, being issued on the application of the parent or other person with insurable interest. Many state laws permit such insurance with a graded limitation of amount up to a stated age such as five or ten, and most companies issue special *juvenile policies* permitted by these laws under which the amount of insurance is on a graded scale as age increases, reaching an ultimate maximum in accordance with the provisions of the law. It is under such laws, also, that industrial policies on the lives of young children are issued.

There has been considerable expansion in juvenile insurance, and fairly large amounts of insurance are now issued by many companies on juvenile lives. Insurance on the lives of children has a definite appeal to parents. The difference in annual premiums between a policy effected at age five and one issued at age twenty-five, for example, is considerable.

There are, however, two points of view. One view recognizes the decided advantage both to the insured and to the company of insuring young lives. The death rate after the first few months of life is so low that the premium rates are also low, and the company can safely issue a reasonable amount of insurance adjusted to the circumstances of the parents. The other view is that there is no social justification for insurance on young children.

The usual selection procedure is greatly simplified in the case

of juvenile lives, and most of the business is done on a non-medical basis, *i.e.*, without medical examination, even at the lowest ages. Only where the amount of insurance applied for is large is medical examination required. It is customary to require that the insurance carried on the life of the applicant (parent) have some relation to the insurance on the child. For example, it might be required that the applicant have twice as much insurance as is being applied for on the life of the child. This particular relationship is written into the New York law with respect to insurance on children between the ages of ten and fourteen.

At advanced ages, *i.e.*, above sixty, the need for insurance has, in many cases, ceased, while the higher cost, the much larger percentage of persons who are ineligible on account of physical defects, and the fact that many are already fully insured result in a comparatively small total of insurance applied for.

The fact that only a small number of applicants is obtained at extreme ages, whether young or old, is sometimes given as a reason why it is necessary to select such cases as are offered with rather more than customary care. These small groups will probably not yield average results on which the same degree of dependence may be placed as in the case of applicants at ages where the volume of business is considerable. Whether it is essential, or at least desirable, that average results be secured at *every* age of issue is, however, open to question. To some extent, there is bound to be selection against the company among such applicants as a class.

At early ages there will only infrequently be justification for insurance of large amount, while at advanced ages, although financial circumstances might warrant the issuance of a large amount of insurance, the infrequency of large policies and the consequent absence of a broad enough basis to secure average results are usually regarded as good reasons for limiting the amount of insurance granted. It is customary, therefore, both at very low and at very high ages, to limit the insurance that will be issued on any individual to a smaller amount than would be granted at intervening ages in similar financial circumstances.

Usually a progressive scale is adopted, commencing with a small amount at the lowest age at which insurance is issued and graded to the company's full limit for a single life as a maximum. At the other end of the scale the limit is reduced from about age fifty-five or sixty in the same manner, the extreme age at which insurance is issued being usually sixty-five and, in some companies, seventy. The following table is a typical schedule of maximum amounts of insurance according to age at issue in a company which issues up to \$100,000 on a single life at its own risk. This table, however, is merely a general guide. The limits as stated at the lower and higher ages would be subject to exceptions in suitable cases.

Age at Issue	Maximum Amount of Insurance
Below 15	\$ 5,000
15 to 17	10,000
18 to 20	25,000
21 to 22	50,000
23 to 24	75,000
25 to 55	100,000
56 to 60	75,000
61	50,000
62	40,000
63	30,000
64	20,000
65	10,000

A reason often given for the limitation of insurance on lives at the higher ages is that the mortality experience at advanced ages is not so favorable as at low ages. This does not appear, however, to be a valid reason for limiting the amount. From what has been said in previous chapters it will be remembered that the improvement in vitality noted progressively in the past is principally found at low ages and has, in fact, consisted largely of a postponement of deaths from low to more advanced ages, thus reducing the rate of mortality among the young and lengthening the average duration of life. The fact that the experience of an insurance company or of many insurance companies shows

that in regard to its younger policyholders a considerable saving in claims is made, while less saving is made among older lives, is not a reason for supposing that the latter class is not so eligible for insurance. If the premium charged is adequate and if a sufficient volume of business is obtained at every age, the maximum amount to be insured on a single life could be the same at all ages except for the practical reasons referred to above. If the mortality experience is less favorable, this should be reflected in the dividend scale of a mutual company or in the nonparticipating premium rate of a stock company.

One phase of insurance at higher ages that the underwriter must continually watch is that of speculation. The insurance of aged dependent persons in favor of those upon whom they are dependent is far more common than might be supposed. In order to escape undue loss, the company must be satisfied that there is a legitimate reason for insurance of the amount applied for. Questions also arise occasionally at low ages, but in such cases the avoidance of overinsurance usually solves the problem. When an attempt is made to overinsure either the old or the young, the insurance should not be reduced in amount but declined outright.

Insurance of Women. Women are now usually insured on the same terms as men. It was formerly customary to charge an extra premium for a policy issued on the life of a woman chiefly because of the special risks of childbirth and possibly because medical examination of women was usually not so satisfactory as in the case of men.

Large numbers of women are earning their own living and have, because of their dependents, the same need for insurance as men. The financial and moral hazard is probably now no greater on the average in the case of applications for insurance on the lives of women. In fact, in insurances of moderate amount there are features which render such business superior. The average length of life of women is somewhat greater than that of men. The proportion of those of bad habits is smaller, and the business is almost entirely of that class which is found to yield the most favorable experience, financial policies (*i.e.*, policies taken for

business reasons or in connection with financial transactions) being infrequent. Where large amounts are involved it is sometimes the practice, however, to fix a lower maximum limit for insurance on the lives of women. There is not often sufficient justification from a financial point of view for issuing a very large amount of insurance on the life of a woman, and few such applications are received, so that large policies on the lives of women are rare. Where every element is favorable, it must be admitted, however, that there seems little necessity for limiting the insurance to an amount less than would be issued on a male. When exceptional cases arise, they are likely to be dealt with in an exceptional manner; probably most companies would, on occasion, issue up to the full limit on the life of a woman.

Insurance on the lives of single women is accepted as freely as on the lives of men. There are, however, definite restrictions upon the insurance of married women because in most instances they are dependent upon their husbands for support and the need for insurance is much less. The hazard of childbirth is still a factor to be weighed, although maternity mortality has been considerably reduced. The insurance of married women for an unreasonable amount savors of speculation. Many companies limit the amount of insurance on a dependent married woman to some proportion of the insurance carried by the husband on his own life, and many companies will decline to consider insuring women on the lower-premium plans such as term. All companies underwrite this business strictly.

The Limit of Risk. Each company must fix a maximum limit of insurance on a single life, the amount of which is a matter largely of opinion and financial judgment. The amount at which this limit is set will depend on the total amount of insurance in force in the company and the amount of surplus funds. Generally speaking, it should be fixed at such an amount that the company would not be embarrassed by the payment in a single year of somewhat more than the "expected" number of claims of the maximum amount.

The greatest amount of insurance retained on a single life by the largest companies at the present time is \$100,000 to \$300,000.

Owing to adverse experience on large policies during the depression years (including a high suicide rate) there was, for a time, a tendency to reduce the maximum limits of risk. As several of the larger companies have 5 to 10 billion dollars of ordinary insurance in force and surplus or contingency funds amounting to 60 to 200 million dollars or more, fluctuations from the average experience are not likely to be such as to become embarrassing. Newly organized companies usually fix a retention limit of \$5,000, which is gradually increased with the growth of the company. The natural tendency in all companies, whether large or small, is a gradual increase in the limit as the company's insurance in force and surplus funds increase. There are obvious practical advantages in placing the company's limit as high as possible.

Reinsurance. While it is necessary to restrict the amount of insurance retained by a company at its own risk on a single life, it is customary in most companies to issue policies of larger amount than their own limit, reinsuring the excess over that limit with some other company.

A reinsurance contract may be entered into with another company either on the *yearly-renewable-term* basis or on the *coinsurance* basis.

On the yearly-renewable-term plan, reinsurance is based upon the net amount at risk, *i.e.*, the face amount of the insurance less the terminal reserve. The reinsurance premium for each year is calculated by multiplying the net amount at risk by the yearly-renewable-term rate for the attained age.

Under the coinsurance plan the reinsurance company receives a proportionate part of the premiums less commissions and an expense allowance and is liable for a corresponding part of all payments under the policy made by the direct-writing company. To carry this into effect a coinsurance certificate is issued by the reinsuring company to the direct-writing company for each policy reinsured.

A modification of the coinsurance plan is that under which the company retains the entire reserve. Throughout the calendar year all transactions are carried out as under a regular coinsurance agreement. At the end of the year the reinsurance com-

pany pays over to the ceding (direct-writing) company the amount of the net increase in the aggregate mean reserve adjusted for interest earned by the ceding company during the year. This arrangement may be suitable where the reinsuring company has not been licensed in the home state of the reinsured company, so that reserves on reinsurance would not be a permissible deduction from the reserve liability of the ceding company.

The yearly-renewable-term plan has been preferred by smaller and medium-sized companies because it permits them to retain a larger amount of the premium in their own assets, while the larger companies have preferred the coinsurance basis, under which their dividends are guaranteed by the reinsurance company.

Because of the generally unfavorable mortality experience under policies of large amount there has been a tendency in recent years for reinsuring companies to withdraw the coinsurance plan except for nonparticipating insurance. It was found, in general, that dividends payable under participating insurance were based on an average mortality experience which was more favorable than that experienced by the reinsurance company on the larger risks which were the subject of reinsurance.

A reinsurance contract may be on an *automatic* or on a *facultative* basis. Under the automatic form of contract, which provides for reinsurance of all or a definite portion of a company's first excess, the reinsurance company binds itself unconditionally to grant reinsurances, either on the yearly-renewable-term net-amount-at-risk basis or on the coinsurance basis, for specified amounts in proportion to the amount retained at its own risk by the direct-writing company in accordance with its established limits for its own retention at its own rating. This type of reinsurance contract enables the direct-writing company to issue the policy at once, if the amount of insurance is not in excess of its own retention plus the automatic coverage. If the amount is greater, the excess may be submitted on the facultative basis.

The facultative form of contract may also provide for reinsurance either on the yearly-renewable-term net-amount-at-risk

basis or on the coinsurance basis. A facultative contract provides that the direct-writing company shall first submit copies of all papers in respect to each risk and that upon receipt thereof the reinsurance company will immediately communicate its decision as to granting reinsurance.

An objection to an automatic agreement, from the point of view of the reinsuring company, is that it may find itself on the risk for more than its own limit in a case where it already had issued insurance on the life in question. The reinsuring company may be willing to take this risk, relying on its own ability to reinsure any such excess elsewhere.

Coverage under a reinsurance agreement, however, generally bears a definite relationship to the amount of net risk retained by the ceding company, the proportion of reinsurance granted to the amount of such net retention decreasing as the net retention increases. For example, where a small company has a net retention of \$5,000 it may be able to get automatic reinsurance coverage of four times its own retention, enabling it to issue a policy for \$25,000, while in a larger company with a net retention of \$50,000 the automatic reinsurance obtainable under the agreement might not exceed the amount of the retention.

An automatic agreement may contain a provision that in any case where the total insurance in force or applied for exceeds a specified amount, the reinsurance will not take effect automatically.⁴

Life Insurance without Medical Examination. Originally life insurance was conducted without medical examination. In the early days of life insurance in England each applicant appeared in person before the directors of the company, who determined his eligibility for insurance largely on the basis of his personal appearance. Since those days the science of selection has developed considerably, and, until comparatively recently, a careful medical examination has been regarded as an indispensable feature of selection. A medical examination such as is now

⁴ A specimen reinsurance agreement, yearly-renewable-term basis, facultative plan, is given in Appendix J.

usual is, however, not indispensable under favorable conditions with proper safeguards and within reasonable limits.

In recent years the practice of insurance without medical examination, usually called *nonmedical* insurance, has grown up, first in Canada and more recently in the United States. In Canada this development took place largely because of the difficulties of securing medical examinations in sparsely populated districts and also because of the relatively high expense of medical examination for policies of small amount. The usual limit of insurance without medical examination is \$5,000 or, in a few of the larger companies, \$10,000. Usually, also, the plan is applicable only up to a limiting age such as forty or forty-five. Experience has shown that a high mortality must be expected on such insurance issued at the higher ages, and the present tendency is to reduce the limiting age at issue to forty or thirty-five. The form of application used in connection with such insurance is elaborate, comprising all the questions usually contained in an application blank as well as those which the applicant would be asked by a medical examiner, while the agent is generally required to fill in a detailed certificate and recommendation.⁵ The company retains the right to call for an examination where that seems desirable.

In recent years there has been a considerable extension of nonmedical business in the United States. A factor in this development was the shortage of medical examiners during the war. Following the Canadian practice, nonmedical insurance was for some years restricted to rural districts. The amounts involved were small, the age limits not too high, and the experience generally satisfactory. The locale and class of the business contributed to a satisfactory experience. Rural mortality is generally favorable, and the inspection reports are reliable since the applicants are usually personally known to the correspondents and to the agents. Gradually the business was extended territorially to larger towns and cities, where the situation was different. The applicant was not always known to the

⁵ See Appendix H.

agent, and routine inspection reports are not so satisfactory on city business. In addition, towns and cities contain a greater proportion of foreign-born applicants, in connection with whom the underwriting problem is always more difficult. Extensions of nonmedical insurance were at first made only to the smaller and medium-sized towns. During the war some companies extended the plan to the larger towns and cities, and some of them continued that practice after the termination of the war.

The mortality on nonmedical business will normally be somewhat higher than on medically examined business, not only because of purposeful selection against the company where the applicant conceals adverse information, but also because of the presence of impairments unknown to the applicant that only a medical examination would reveal. On the other hand, there is a substantial saving in expense because of the absence of medical examination, a saving which is relatively important since nonmedical business is restricted to the smaller amounts of insurance. This saving should be sufficient to offset the extra mortality. Furthermore, the availability of nonmedical insurance may put business on the books of the company which would not otherwise be written. A safeguard exists in the fact that the company retains the right to call for a medical examination in any instance where it seems to be desirable.

An important element in the successful writing of insurance on a nonmedical basis is the reliability of the agency force of the company. The privilege of writing nonmedical insurance is to the agent's advantage, and if it is used honestly and intelligently the company need not anticipate an unfavorable result.

In the important field of substandard insurance it is still customary to require a medical examination although nonmedical insurance may be considered for some of the occupational groups where the lower extra premiums are charged and where the hazard is largely that of accidents.

There are two branches of nonmedical insurance which require specific mention. The first, *salary savings insurance*, is written on employees under the usual nonmedical rules with no territorial restrictions. Premiums are collected from the employer,

usually on a monthly basis, so that there are additional savings in expense. In addition, under salary savings insurance there is a further offset to any tendency to individual adverse selection in the selection of the group before authorizing the solicitation of business and in the fact that all those insured must be actively at work. The mortality experience on this type of business, while varying a great deal as between different companies, has not ordinarily been so favorable as general nonmedical business.

Another special form of nonmedical insurance is that under which the privilege is granted to those who have passed a medical examination within a stated period, which may be 1 to 5 years, to take *additional* amounts of insurance up to a stated limit without further examination. In the application for such additional insurance, the applicant brings his physical and medical history up to date, and the case is underwritten on the basis of both the old and the new information. The general experience under this type of nonmedical insurance has not been very favorable and indicates some adverse selection by those applying for it.

The Numerical Rating System. The majority of the applications received by a life insurance company present no significantly adverse features and can be accepted, and policies issued, at standard rates. In such cases a review of the information contained in the application, medical examination, and inspection report, by a *lay underwriter*, i.e., a trained clerk, is sufficient to classify the applicant as a standard risk. In other cases involving some unfavorable feature, the classification of an applicant (as insurable on a standard basis, or on a substandard basis at higher premium rates, or as uninsurable) would normally require the careful consideration of the medical director and other selection officers of the company. The main purposes of the numerical rating system are to expedite the handling of such applications and to secure a greater degree of consistency in making decisions than would be possible where the decision depends only on the opinion and judgment of the person handling the particular case. Companies using the system, however, usually put a numerical rating on all applications—even those clearly acceptable at standard rates. While this is not neces-

sary in order to classify most applications, it provides a means of measuring the average *quality* of business submitted by different agencies or by individual agents.

The numerical rating system was developed in 1919 by Arthur Hunter and Dr. Oscar H. Rogers, Actuary and Medical Director of the New York Life Insurance Company. It has been very widely adopted and is used by nearly all the large companies.

Under the numerical rating system an average standard risk is assigned a rating of 100. Unfavorable departures from the average involve a *debit* or *addition* to the "par" rate of 100 while features that make the applicant better than average result in a *credit* or *deduction* from the par rating. The factors that are generally taken into account in assigning these debits and credits are (1) build, *i.e.*, height, weight, and distribution of weight; (2) physical condition; (3) the applicant's medical history; (4) family record as to age and health; (5) occupation; (6) habits; (7) residence; (8) moral hazard. A debit or credit may also be allotted for the plan of insurance applied for. For example, there may be a debit for term insurance (which usually shows somewhat less favorable mortality experience than do other plans) or a credit for endowment insurance under which the amount at risk decreases more rapidly.

The *amounts* of the debits and credits are based on statistics showing the effect on mortality rates of the various factors involved. For example, if the mortality experience among persons in a certain occupation or having a particular degree of overweight has been 110 per cent of that among all standard risks, there will be a debit (addition) of 10 *points* in computing the numerical rating.

The usual procedure is to determine, first, the *basic rating* which depends on the applicant's *build* and which is taken from a set of prepared tables showing the basic ratings according to age, sex, height, and weight. The proper debits and credits, if any, for the other factors are then added or subtracted, and the final numerical rating for the case is thus obtained. In a particularly favorable case the rating may be as low as 75 or 80 while if there are severe or numerous unfavorable elements the

rating may be several times the par rating of 100. If the numerical rating obtained in this manner is not greater than about 125 or 130 (depending on company practice) insurance is granted on a standard basis. The standard class thus covers a range of ratings from about 75 to, say, 125. Cases where the rating is higher than the standard limit are either assigned to the appropriate substandard class and insured on special terms (as explained in the following chapter) or, where the company does not transact substandard insurance or where the rating is higher than for the highest substandard class, are declined.

The foregoing description of the numerical rating system is somewhat oversimplified. Where there is more than one impairment the proper rating will not necessarily be obtained by simply adding the respective debit factors for the various impairments. For example, underweight in conjunction with a family history of tuberculosis would require (particularly where the applicant is young) a higher rating than that obtained by merely adding the debits for the two adverse factors. The determination of the numerical rating is, therefore, not a purely mechanical or automatic process in all cases but may call for special consideration and judgment. The system is not a substitute for individual judgment but is a very effective aid in expediting the classification of risks and in securing greater consistency of treatment. It has the further advantage that the scales of debit and credit factors can readily be changed from time to time to take account of greater knowledge or more up-to-date experience as to the effect on mortality rates of various impairments. Such information is obtained very largely from the studies made by the Joint Mortality Committee of the Society of Actuaries and the Association of Life Insurance Medical Directors.

CHAPTER XI

INSURANCE OF SUBSTANDARD LIVES

A group of lives is said to be substandard when it is subject to a rate of mortality greater than that which is to be expected among a normal group of insured lives. An individual belonging to such a group is called variously *substandard*, *impaired*, or *underaverage*. The extra hazard on which classification in this group is based may arise from occupation, from personal history of disease, from physical condition, from habits, from residence in an unhealthful climate, or from an unfavorable family history.

Extra hazard because of occupation may arise because of a greater probability of accidental death, as in the case of structural-steel work; or because of the unhealthful conditions under which the occupation is carried on, as in certain manufacturing industries; or because of the environment or moral hazard, as in the entertainment and liquor businesses. Sometimes an extra hazard from occupation is offset by other unusually favorable features. Thus the extra accident hazard from occupation in the case of farmers is counteracted by the unusually healthful conditions of work. Groups of persons who have suffered in the past from certain illnesses or diseases, which may have affected their prospects of longevity or which may recur, are substandard because of personal history. Groups substandard because of family history include, among others, those where there is a record of tuberculosis or insanity in the family. Certain other elements in the family history that might otherwise be disregarded may become of importance if the physical condition of the applicant is questionable or because of other adverse circumstances. Extra hazard because of habits results chiefly from excessive use of liquor in the past or from the use of drugs, including cases where a "cure" has been taken.

The majority of substandard risks are persons having defects

or impairments in their own physical condition, such as a heart defect or an abnormal blood pressure, or who are substandard because of occupation.

Insurability of Substandard Lives. In theory there is no uninsurable risk (except, perhaps, those suffering from active and mortal disease), but in practice there are many groups of persons who are unable to obtain insurance because of the high degree of extra risk to which they are subject. If the rate of mortality to be expected in a given group of lives were known with a fair degree of accuracy it would be possible, provided that the group were large enough, to grant insurance on suitable terms irrespective of the extent of extra risk. In some cases, however, the rate of premium required would be so great that few, if any, would agree to pay it, and those, probably, would be the worst of the class. Moreover, in certain types of extra-hazard groups lack of knowledge as to the probable experience and lack of a sufficient number of cases upon which to base an average experience render it impracticable to grant insurance.

It has been observed that one of the requirements for the insurance of any group of lives is a sufficiently large number to ensure average results, and the idea of a group, rather than an individual, as the basis of insurance has been emphasized. These points must be kept in mind particularly in the treatment of substandard lives, for while insurance companies select their policyholders as individuals, the individual is merged in a group. All calculations are based on the average experience of large numbers, and the fate of any specified individual is not significant.

It is a common error to suppose that if an applicant for insurance is placed in a substandard class, or if his application is declined, and it turns out that he survives to old age this result proves that the company was at fault in its treatment of the case. If 1,000 persons, each of whom suffers from a certain medical impairment, are accepted for insurance, it is *certain* that the death rate among them will be greater than among persons who are free from any impairment. In order to provide for the higher death rates which will certainly occur in the substandard group the company must impose special terms on all who are

subject to the extra risk, since it is not known which individuals will be responsible for the extra mortality. It is not expected that every member of the group will die in a shorter time than the average duration of life of normal persons. In fact, it is a certainty that this will not be the case; it is known merely that a larger proportion of them will do so than in a normal group. The fact that certain members of the impaired group reach old age is therefore no indication that an error was made in their cases. If they had paid no extra premium, a still higher extra would have been required from the others. The same principle applies as in the insurance of standard lives. Among these it is not known which persons insured will be the first to die; all, therefore, must pay the same rate of premium. In any substandard group all are subject to extra risk; and as it is not known which lives will be shortened thereby, it is necessary to charge all the same extra premium. Generally speaking, nothing could or should be refunded to those members of a substandard group who do live beyond the normal "expectation," provided that the rate of extra premium charged or other special terms imposed are a true measure of the degree of extra hazard for the group.

Incidence of Extra Risk. Before discussing the various practical methods of insuring substandard lives it is necessary to consider certain general principles which affect fundamentally the treatment of different types of extra risks. *Financially* a great deal depends on whether the extra claims may be expected to occur chiefly in early life, middle age, or old age or whether they are equally likely to occur at any age. To put it in a slightly more technical way, it is of great importance in determining the proper method of rating to know how the extra mortality is likely to be distributed. Consider a large group of persons, all of whose family histories contain a record of one or more cases of tuberculosis. A larger number of deaths will occur in a given period in such a group than is to be expected in a normal group. The number of additional deaths is a measure of the degree of extra hazard during the period of observation. It would undoubtedly be found in such a case that the majority of the extra deaths occurred at the lower ages and shorter policy durations, since it is estab-

lished that the effect on mortality of a family history of tuberculosis diminishes with increasing age. Again, if one considers another group composed of persons all of whom are considerably above the average weight, there will also be found a higher death rate than is to be expected in a normal group. The distribution by age and duration of the extra mortality in the latter group would, however, be entirely different from that in the former group, since the effect of overweight on mortality, generally speaking, increases with age.

From these considerations it follows that in order to decide upon suitable terms for insurance it is not sufficient to know merely the extent of the aggregate extra mortality in any given period. If fair terms for insurance are to be offered, it must be known how the extra mortality will probably be distributed since, even if the total extra mortality in a given period is the same in two groups of impaired lives, a smaller extra premium will be sufficient if the extra deaths do not occur on the average until the later durations than if they occur soon after the policies are issued.

There are innumerable variations to be found in the distribution of the extra risk in different classes of substandard lives. For practical purposes, however, every substandard life may be considered to belong to one of three broad groups, in the first of which the additional hazard is approximately constant at all ages; in the second, increasing with age; in the third, decreasing with age. Certain types of impairment exist where the extra hazard increases for a time and later decreases. In fact, there are many impairments which are commonly placed in the category of increasing extra risk which are in reality of this latter description. Practical considerations, however, render it necessary to ignore too great refinements.

Many impairments arising from past history of disease are of the decreasing-hazard type. Residence in an unhealthful climate may also be a decreasing extra hazard, since in many cases persons become acclimatized after a more or less protracted residence. Many occupational hazards represent an approximately constant extra risk, as do certain types of physical defects. Most

extra hazards of this latter type tend to increase somewhat with age but, for practical purposes, may be treated as if the extra mortality were constant.

Practical Treatment of Substandard Risks. The principal methods of insuring substandard risks will now be described, and their suitability considered in the light of the principles referred to above. It must be remembered that, while theoretical considerations furnish the foundation of practical rules, it is not necessary or possible to adhere rigidly to a strictly scientific treatment in all cases.

It has been indicated that standard risks are not an entirely homogeneous group but include classes of persons whose mortality rates may show substantial differences, with numerical ratings ranging from, say, 75 to 125. Substandard risks, which form a much smaller proportion of the total numbers insured, are, for practical reasons, similarly classified in rather broad groups, both as to the extent of the extra rating and as to the method of treatment. Any classification of risks is necessarily on broad lines in order to secure sufficiently large groups to yield average results.

Increase in Age. One method of treatment, formerly widely used but less common at the present time, is to *rate up* the applicant to a higher age. Where a policy is issued at the rate of premium applicable to a greater age than the applicant's real age, the assumption involved is that the applicant is, for insurance purposes, equivalent to a person of the rated-up age. The table on page 266 illustrates, on the basis of modern mortality experience (Table Z), the extent and distribution of the extra mortality for which provision is made by this method where the addition to the age is 5 years.

These figures show that, in the case of a group of applicants whose real age is twenty-five and who are granted insurance at an advance in age of 5 years, the extra rate of mortality for which provision is made is at first very small but increases rapidly with the duration of the policy. In the first year provision is made for practically no extra claims, the rate of mortality at age thirty being little greater than at age twenty-five. In the

tenth year provision is made for an average of 1.2 extra claims per thousand lives surviving at the beginning of the year, and in the thirtieth year for an average of 7.4 extra claims per thousand lives insured. In the case of a group of applicants whose real age is forty-five and who are likewise rated up 5 years, the number of extra deaths provided for increases from about 3 per thousand in the first year to about 40 per thousand surviving in the thirtieth year. This rapid increase in the rate of assumed extra claims arises from the fact that the increase in the normal rate of mortality between any age and a higher one is greater as the age increases. Thus, the difference between the rates of mortality at ages twenty-five and thirty is only a fraction of the difference between the rates of mortality at ages sixty and sixty-five.

EXTRA MORTALITY PROVIDED FOR BY RATING UP AGE. ADVANCE IN AGE 5 YEARS—TABLE Z MORTALITY

Year of insurance	True age at issue 25			True age at issue 45		
	Rate of mortality per 1,000		Extra deaths per 1,000	Rate of mortality per 1,000		Extra deaths per 1,000
	Assumed (true age + 5 yr.)	True age		Assumed (true age + 5 yr.)	True age	
1	2.5	2.4	0.1	10.1	6.9	3.2
10	4.2	3.0	1.2	21.5	14.1	7.4
30	21.5	14.1	7.4	116.9	76.3	40.6

The plan of dealing with substandard risks by rating up the age is, thus, suitable only when the extra risk is of a decidedly increasing type and where the extra risk continues to increase indefinitely at a greater rate. From a practical point of view the method may be used with sufficient accuracy for all types of sub-

standard risks where the extra mortality, *in general*, increases with age.

In the case of endowment policies, where the insurance is terminated in a limited number of years and particularly where maturity of the endowment takes place at a comparatively early age, the amount of extra mortality provided for, even by a substantial increase in age, may be very small. This may be seen by referring to the premium rates of any company for endowment insurance and measuring the additional cost in terms of the premium paid instead of in terms of the numbers of extra claims. It will be found that, except in the case of long-term endowments or where the age at issue is high, the extra premium in dollars and cents obtained by the addition of, say, 5 years to the age is small. This is not a criticism of the method as applied to such policies; for if the extra mortality is really such that the applicant may in fact be regarded as, say, 5 years older, no greater extra premium is needed since the period of greatest extra mortality (old age) is not covered.

In the case of impairments involving an increasing extra mortality the increase-in-age method is suitable from a practical point of view, although few impairments actually present such a consistent and rapid increase in the rate of mortality as is implied by that method.

The method of rating up the age has several practical advantages. It is very simple. The policies can be dealt with for all purposes as standard policies issued at the higher age. No special tables of premium rates, cash and other nonforfeiture values, reserves, or dividend calculations are required. The method is easily understood by all concerned. From the applicant's point of view, it has the subsidiary advantage that policies so issued carry correspondingly higher cash and paid-up values (although, usually, not longer periods of extended insurance) and also higher dividends. Thus, part of each extra premium paid is refunded as a dividend, and another part is building up a higher reserve and cash value than there would be on a policy issued at the true age. If the policy is surrendered for cash, the additional cash value is equivalent to a refund of part of the extra premium paid.

Flat Extra Premium. A flat extra premium of so many dollars per \$1,000 of insurance might, at first sight, appear to be theoretically correct where the extra hazard results in approximately a constant addition to the rate of mortality at each age. The situation, however, is complicated by the fact that, under most policies, there is a gradually increasing reserve so that the actual amount at risk is diminishing. The effect of an increase in the rate of mortality should properly be considered in relation to the amount at risk and not the face amount of the policy. A flat extra premium in the case of life and endowment policies, therefore, really provides for an increasing extra risk. In the case of a 1-year-renewable-term policy a flat extra premium would be equivalent to the same constant addition to the rate of mortality, since there is no terminal reserve on such a policy, but this is not true for other types of policies.¹

Where the extra risk is constant, as from a hazardous occupation or from an impairment such as deafness, the extra premium charged for a life or endowment policy therefore should theoretically diminish in amount each year because of the increasing reserve and consequent reduction in the net amount at risk. This, however, is not done in practice since it would entail disproportionate labor and expense. Since constant extras are necessarily approximations and since they must contain some safety margin, it is simpler and sufficiently accurate to fix a suitable extra premium which takes into account the maximum or the average extra risk rather than to provide for a variable charge decreasing each year. Some companies vary the amount of the extra premium for constant extra hazard according to the plan of insurance, charging less for endowment policies than for whole-life policies since the average amount at risk is less in the former case.

So far as his premium payments are concerned, it makes no difference to the policyholder whether the extra premium is a flat extra or results from rating up the age. In both cases he pays a larger annual premium for the same amount of insurance. There

¹ This may be more clearly realized by referring to the explanation of the calculation of premiums in Chap. V.

is, however, a distinction, since the extra premiums received under the two plans are applied in different ways. For example, if a flat extra premium of \$5 is charged in a given case, the whole of it is applied each year in payment of additional claims and expenses, while the dividends and the cash and other guaranteed values are the same as those for a policy without extra premium. If, on the other hand, a policy is issued at an advance in age, which results in a premium greater by \$5 than the premium rate at the true age, the same extra amount is not used each year in paying claims, a part being applied to increase the reserve of the policy to that applicable to the higher age and thus to provide for a postponed higher rate of extra claims in later years. This shows again that an increase in age provides in reality for extra mortality which is relatively small at first but large in later years. By assuming the age to be greater than the true age, accumulation of the full face amount of the policy, in the case of whole-of-life insurance, is provided for that many years sooner, as the life in question will be assumed to have reached the limit of the mortality table earlier.

Extra Percentage Tables. By far the most common method of treatment of the majority of substandard risks (other than occupational and similar purely temporary and constant extra risks) is to classify them in groups on the basis of the *percentage* of standard mortality to be expected and to charge premiums based on a corresponding percentage increase in the normal mortality rates at each age. Under this plan it is usual to establish three to six or more *substandard classes* with separate premium scales based on such percentages as 150, 175, 200 of the standard mortality rates. This is, perhaps, a logical system when it is remembered that standard risks must necessarily comprise groups of persons subject to rather wide variations in mortality but which in combination give the standard mortality. The standard class includes, for example, such superstandard risks as clergymen, and, at the other end of the scale, those who just escape a substandard classification. All within the standard class, forming, perhaps, as much as 90 per cent of all insured, are treated alike irrespective of variations of mortality experience in the sub-

divisions of the group, and it seems reasonable to deal with the much smaller number of substandard risks in broad classes in the same way, ignoring the variations as to extent or incidence of extra mortality in the numerous small subgroups which make up the whole class.

Under this system every substandard risk is assigned to the appropriate percentage class within which the mortality of the particular impairment falls, and rated accordingly. Nonforfeiture values may be based on the special mortality table, or the normal standard values may be allowed, provided that these satisfy the requirements of state laws. In that case extended insurance usually will be eliminated or computed on the basis of the higher mortality rate.

Tables based on a percentage of the standard or normal mortality rates show a relatively small extra mortality at early ages, unless the percentage of extra mortality is high, because the normal, or base, rate of mortality at these ages is, in any case, small. The amount of extra mortality provided for at higher ages is much greater.

Extra percentage tables are sometimes used as a basis for determining the extra premiums under other systems of extra rating. Thus the risk may first be assigned to an extra percentage table, after which the rating is translated into the equivalent rating up of age. This is one way of determining the number of years of rating up which is appropriate. Statistics are available for many types of substandard risks showing the percentage of total extra mortality, so that this is a convenient method even for those companies which prefer to express the rating in terms of an increase in age. The extra-mortality percentage having been determined, the appropriate net or gross premium can be ascertained, and from this, in turn, by reference to the standard premiums the nearest integral addition to age is found. There are other variations in method in the practices of individual companies. In one company substandard risks are rated on the basis of an increase in age *plus* a constant extra premium.

Where the percentage-classification method is used for substandard risks the reserves held must correspond to the mortality

basis assumed, requiring separate classification records and tabulations for such policies. Where constant extras are charged, the usual practice is to hold the normal reserve plus a proportion of the extra premium for the balance of the policy year (with necessary adjustment for limited-payment policies).

Liens. Where the extra mortality to be expected is of a distinctly decreasing nature—as in an impairment arising from family history of tuberculosis—an increase in age, a percentage addition to the mortality table, or a constant extra premium is not, at least theoretically, a suitable method of treatment.

A more suitable method in such cases is that of creating a lien against the policy for a number of years, the amount and term of the lien depending on the extent of the impairment. If adequate statistics are available, it is possible to calculate the term and amount of lien which would be the equivalent of the extra risk undertaken. In that case the policy is issued at the normal rate of premium, and if death occurs before the end of the period specified, the amount of the lien is deducted from the amount of the policy. A refinement of this method is that under which the lien gradually decreases. In most cases this is a more reasonable and satisfactory basis.

In cases where the applicant believes that he is a good risk and is disposed to doubt the opinion of the company's medical officer as to his insurability, he may prefer to take a policy at the ordinary rate of premium subject to a lien rather than pay an extra premium. A greater number of persons in such groups will die during the early years than in a standard group, and the deductions made in their cases provide the amount necessary to pay for the extra hazard in respect of all those who are insured. The fact that the insurance protection is reduced during the years when the lien is in existence will not usually impress the person insured so forcibly as would the payment of an extra premium on a policy for the full amount. Mathematically, the two arrangements are equivalent.

A practical and serious disadvantage of the lien system is that a comparatively large lien is necessary to offset a small degree of extra mortality. There is also apparently some doubt as to

whether such liens conflict with laws in certain states which prohibit any provision under which settlement of the policy as a death claim may involve payment of less than the face amount.

The lien system (partly for the reason just mentioned) has not been widely used in the United States but has been used extensively in Canada and in Great Britain.

Other Methods. A method of dealing with substandard risks where the extra mortality is small or where its nature is not well known is to make no extra charge but to place all the members of the group in a special class for dividend purposes, adjusting dividends in accordance with the actual experience. It is apparent, however, that this method is of limited scope since only a small degree of extra mortality could be dealt with in this way. Moreover, this method requires that a sufficiently large number of risks be obtained in each such class upon which to determine an average experience.

Sometimes it is possible to deal with the impairment by merely limiting the plan of insurance. Some impairments present an extra mortality which is largely postponed to advanced middle or old age. Where the degree of impairment is not too great, it may sometimes be met by limiting the applicant to endowment insurance. An applicant aged thirty showing moderate overweight might be given a standard policy on the 15- or 20-year endowment plan although if insurance were for the whole of life a substandard classification might be necessary (according to degree of impairment).

Removal of Extra Premiums. The question often arises whether an extra premium should be removed if the element of additional risk is eliminated. Where, on subsequent examination, it is found that a medical impairment no longer exists, it is the usual practice to remove the extra rating. Such a removal of extra premium is justified largely on practical grounds. Theoretically the extra premium should not be removed in the case of medical impairments. Many of those who belong to the same impairment group may have deteriorated rather than improved. Many of them, therefore, may now be entirely ineligible for insurance on any terms, while others may be insurable only at a greater

extra premium than formerly. In these cases the company cannot obtain an increase in the premium payable, and therefore it cannot afford to remit the extra premium in the case of those who have become standard risks, unless the extra premiums were calculated in the first place on the assumption that they would be payable only while the extra hazard remained.

Where an extra premium has been imposed on account of occupation, residence, or a risk which is temporary in its nature, it is proper to discontinue the extra premium after the cessation of the extra risk. It is necessary, however, to exercise care in doing so, more particularly in occupation and residence cases where there is a possibility that the insured may subsequently return to the hazardous occupation or residence or that his health may have been affected. For this reason it is customary in such cases to require that a certain period shall have elapsed since the cessation of exposure to extra hazard, and sometimes a medical examination is also required. It must be remembered that usually it would not be possible to reimpose the extra premium if the extra hazard were again incurred.

Value of Substandard Insurance. The majority of the life insurance companies of this country transact substandard business. Several important companies which formerly wrote standard insurance only now write both standard and substandard. By doing so they provide life insurance for many who would otherwise not be able to obtain it. Extensive investigations into the rates of mortality prevailing among various types of substandard groups are constantly being undertaken² and result from time to time in further extensions of this class of business and in revisions of the terms upon which substandard policies are

issued. It may be said that life insurance is available to all save those subject to such excessive rates of mortality as would require premiums very much greater than they would be willing to pay. Where the extent and nature of the hazard are unknown or are imperfectly known or where only small groups exist, it is necessary for safety to charge rates of premium which are probably greater than will actually be required. In many cases the investigations which have been made have shown that it is possible to reduce extra premium rates in certain classes and thus to grant insurance upon more favorable terms. Work done along this line is of the greatest value, not only to the companies but also to all those who cannot obtain insurance at standard rates.

By engaging in substandard business, companies facilitate the work of their agents, conserving, possibly, about 5 per cent of their total production. Not only is a much wider field opened up to them, but also the percentage of cases which otherwise would be declined is greatly diminished. Those companies that have refrained from insuring other than standard lives have done so chiefly for practical reasons and in order to simplify their business. Sometimes it has been thought that substandard insurance would adversely affect the interests of the agents since some borderline cases which formerly obtained standard rates would be rated up. To a small extent that is bound to be true, but on the whole it is probable that the general widening of coverage would be in the best interests of the agents, the companies, and the public. It was also felt at one time that lack of knowledge might lead to heavy losses, but there is no justification for such a view at the present time. The fundamental principles of life insurance are the same for all classes of lives, and it is certainly very desirable that those who, perhaps, stand most in need of insurance should be able to obtain it on reasonable terms.

CHAPTER XII

THE ASSETS

In preceding chapters the methods of determining the amount of the liability of a life insurance company on account of its outstanding policies have been explained. It is equally important, in determining the financial condition of the company, to consider the nature of the assets and the value placed upon them. In this chapter the nature, composition, and valuation of the assets of life insurance companies will be discussed, particularly as they are affected by the various state insurance laws.

General Principles of Investment Applicable to Life Insurance Companies. There are three principal considerations in investing life-insurance funds. In order of their importance they are (1) security of principal, (2) adequacy of yield, and (3) diversification. A fourth consideration sometimes mentioned is ready convertibility; but since life-insurance policies are long-term contracts and since, normally, cash income exceeds cash disbursements, convertibility, except for a small proportion of the total funds, is not important, notwithstanding the substantial extent of "demand liability" in the form of guaranteed cash-surrender and loan values as well as various types of deposits.¹

Security. It has been said that the object of a life insurance company is to pay claims. Its ability to do so is the paramount consideration. For this reason it is generally considered that, except to a small extent, investments of a speculative nature are not suitable for life-insurance funds nor are any other enterprises which involve possibilities of either large profits or large losses, as, for example, the practice, formerly followed by some companies, of underwriting new security issues. The fact that such

¹ The importance of these "demand liabilities" in relation to liquidity of assets has been reduced by the mandatory inclusion in all recent policies of a delay clause as required by the Standard Nonforfeiture Law.

transactions have been or may be very profitable and the argument that, in view of the special opportunities available to such large financial corporations as insurance companies, they may involve little risk of loss are not usually deemed sufficient justification for employing funds which are in their nature trust funds in any other than sound and conservative investments. The nature of life-insurance funds renders security of principal by far the most important consideration. At the same time, when the extent of the investments of life insurance companies is taken into account it would seem that a small proportion of "speculative" securities, such as the common stocks of well-managed and successful corporations with a good record, or a moderate investment in carefully selected real estate, should not be a source of any real danger. In fact, one of the advantages that a large investor should enjoy is the ability, through diversification of investment, to take advantage, to a certain extent, of the higher yields obtainable on such investments.

This is, perhaps, particularly true of a life insurance company, which usually has the benefit of the most expert advice on investment matters. Many of the state laws on the subject, however, lay down a distinctly conservative investment policy and aim at a high degree of security, not only in the investments as a whole but in the individual items.

While this conservative view of the general character of life-insurance investments has been, and is, the one generally held, it is becoming more and more difficult for life insurance companies to limit their investments largely or entirely to secured obligations (*i.e.*, bonds and mortgages) and to continue to withhold their funds from the available supply of venture capital. This is so not only because the growth of the aggregate assets of life insurance companies seems certain to exceed the growth in the supply of fixed-interest investments but also because of an increasing public demand that some part of life-insurance assets (forming the greatest and most rapidly increasing capital pool) be made available for the development of industry on a basis of sharing the risk. A further reason for such a development lies in the desirability or the need, on the part of the companies, of

realizing a higher net yield on their invested assets than will probably be obtainable for a long period of time if investments are restricted to such as are included in present portfolios, including a substantial proportion of low-yield government bonds.

Important changes may take place in future in the character and distribution of these investments, not as a matter of choice or considered judgment, but as a matter of necessity.

Yield. Premiums and reserves have always been computed on the basis of what was intended to be a very conservative interest assumption. Prior to the drastic fall in interest rates which began in the 1930's the rate of interest which it was assumed could be earned during the life of policies being issued had for many years been not more than $3\frac{1}{2}$ per cent and, in many companies, 3 per cent. Such assumptions provided an interest margin over a long period of from 1 to $1\frac{1}{2}$ per cent or more, and the interest required to maintain reserves was easily obtainable on the best classes of securities. By the middle 1940's the net interest rate on total assets had, in most companies, fallen to the point where the interest earned barely equaled the interest required and, in some cases, was actually less, an entirely unprecedented situation in the history of the business. The low point of the interest yield (up to 1951) was reached in 1947 when the average net interest rate earned by the principal companies fell to about 2.9 per cent as compared with about 5 per cent in 1930. At the present time (1951) the interest assumption for new policies in most companies is $2\frac{1}{2}$ or $2\frac{3}{4}$ per cent. Some companies have adopted a lower rate. There has also been a general process of *reserve strengthening* by the application of surplus funds to place the reserves on existing policies on a lower interest basis. It should be observed that while the lower rates of interest now being used for premiums and reserves are probably safe and conservative there is, in general, a much smaller *margin* than formerly since the actual net earned rate averages at present only about 3 per cent.

In considering yield in relation to a company's operations it is important to realize that the investment income must provide the additions to policy reserves in accordance with the basis upon which premiums and reserves are calculated and that the effective

amount of such income will be partly determined both by the expenses of investment and by capital gains or losses. It is the duty of the company to choose its investments in such a way as to secure the highest yield consistent with safety, in order that it may furnish insurance to its policyholders at low cost. In considering both security and yield it should not be forgotten that life insurance companies must, because of the large amounts to be invested, seek their investments in a wide and varied field. In such circumstances it is not to be expected that losses will be entirely avoided. The same principles of averages that apply to life-insurance calculations can be applied in some degree to investment transactions. Thus, part of the higher interest earnings on the less well-secured investments (such as common or preferred stocks) may be set aside as a contingency fund or *investment fluctuation fund* out of which losses may be made good.

Diversification. Life-insurance funds should be distributed both *geographically* and among different *classes* of investments. It is sound policy not to have too great a proportion of the total funds in a single investment, in a single class of investment, or in investments which may be interdependent or which depend on the prosperity of a particular section of the country or which may be seriously affected by the normal changes in modern life resulting from technical progress, new inventions, and the like. Some of the states recognize this principle to some extent by limiting the proportion of assets which may be invested in a single investment or class of investment. For example, New York limits any one mortgage loan to 2 per cent of assets; in Wisconsin not more than 10 per cent of the assets may be invested in the stock or securities of any one corporation; while in Louisiana not more than 80 per cent of the assets may be invested in mortgages. These and similar laws will, however, be small protection to companies that do not exercise a constant and forward-looking supervision of their investments.

Convertibility. Ready convertibility into cash is, under normal conditions, not by any means a necessary quality of an investment in order that it may be suitable for a life insurance company. Current income is usually more than sufficient to take care

of current disbursements. In well-managed companies, circumstances under which it would become necessary to sell any considerable quantity of securities are remote, while, because of the large number of different investments, there will always be a certain proportion of the funds in securities that are about to mature or that could be readily converted into cash except under very unusual circumstances. There will be, in addition, cash receipts from payments under mortgage loans subject to amortization, bonds called, and the like. At the present time, Federal Reserve banks are authorized under the Banking Act to make renewable advances for short periods against government securities. Since life insurance companies are large holders of U.S. Government bonds this is a further and significant element in liquidity.

Convertibility into cash by actual sale is largely academic. Probably no conversion of a substantial block of securities could be effected without loss—in extreme circumstances, perhaps disastrous loss.

However, convertibility of a certain proportion of the investments is rendered more desirable by the liability to pay cash-surrender values or to grant policy loans on demand, particularly in companies having a substantial amount of "investment" business such as retirement annuities or endowment insurances. While the companies are protected to an increasing extent by the "delay clause," this protection would actually be availed of only in case of extreme necessity. Failure to pay cash values or grant loans *on demand*, even where the company had the right to delay, would naturally tend to diminish the confidence of policyholders in the soundness of the company.

Suitability of Various Types of Investment. The principal types of investments available may now be considered in greater detail from the point of view of their suitability for the investment of the funds of life insurance companies.

Real Estate. Because of its speculative character and low convertibility, real estate is, in general, not a suitable investment for more than a small proportion of the assets of a life insurance company. Until comparatively recently most of the states have restricted real-estate investments to such real estate as is (1) oc-

cupied by the company, (2) necessary for the convenient transaction of its business, or (3) acquired by legal process as by foreclosure of mortgage loans. In the latter case it is generally required that real estate so acquired must be disposed of within a limited period, such as 5 years, as in New York. A home-office building is a desirable and suitable investment for a well-established company and, until the developments referred to below took place, generally constituted the major part of most companies' permanent real-estate investment. Most companies have also at any time a certain amount of foreclosed real estate awaiting disposal, but even in the years following the depression of the 1930's, when foreclosures were abnormally high, the total of real estate owned did not exceed about 8 per cent of total assets on the average for the principal companies.

Some states have liberalized their laws to permit the use of life-insurance funds for the development of housing projects. The New York law, for example, permits a company to "acquire or construct housing projects consisting of apartment, tenement or other dwelling houses" and to acquire and own the land necessary for such projects up to a total investment of not more than 10 per cent of the company's admitted assets. This has been done for a social purpose and to aid in relief of the prevalent shortage of housing. Projects of this kind can, however, be undertaken successfully only on a very large scale and have, therefore, been limited almost entirely to a few of the largest companies.

A more recent development has been the liberalizing of state laws to permit the acquisition of certain types of real estate as an investment for the production of income, subject to stated limitations and conditions. Thus, in New York, a company may now purchase and develop real estate (other than specified types including agricultural, amusement, and club properties) up to a total of 3 per cent of its assets, with a limitation on the size of each such investment and a requirement that the book value be written down by at least 2 per cent a year. Such extensions of the companies' investment powers have been due, in part at least, to the increasing difficulty of finding suitable and sufficiently remunerative investments for their continually expanding assets,

and to the abnormally low rates of interest prevailing in recent years on other types of permissible investments. One method by which the companies have taken advantage of the right to own real estate as an investment is through the purchase and re-lease of commercial properties such as blocks of stores. Under this arrangement the insurance company purchases the property and leases it back to the operating company on a long lease, usually with right of renewal. This is advantageous to both parties since the insurance company obtains a satisfactory investment while the operating company avoids tying up its working capital.

As a result of these developments there has been a gradual increase during the last few years in the proportion of assets invested in real estate. This increase is likely to continue, but the proportion (at present about 2 per cent) will necessarily remain small.

Mortgage Loans. Generally speaking, mortgage loans satisfy in a high degree the requirements as to security and yield. They may also be well distributed both geographically and by type of security. In addition, high-class mortgage investments have always been readily convertible, even in depression years. They are thus entirely suitable for the investment of a substantial proportion of life-insurance funds provided that the properties are kept under close supervision and a proper margin between the loan and the appraised valuation is maintained. Mortgage loans, because of their stability and permanence and the need of special knowledge and supervision in their handling, are particularly suited to large investors, such as insurance companies.

At the present time almost all types of mortgage loans carry amortization requirements, *i.e.*, a provision for periodical reduction of principal. Many residential loans are now being made on a fixed-monthly-payment "self-amortization" basis whereby the loan is entirely paid off in a period of 10 to 20 years. This arrangement supplies the company with a periodical cash income which is available for current use or reinvestment, while the margin between the value of the property and the amount of the loan is maintained or increased.

The rate of interest on mortgage loans depends primarily on

the ratio of the loan to the value of the property, not on the size of the loan. The yield and security of first-class mortgages have been such as to render them particularly attractive investments, especially when the degree of permanence desirable in life-insurance investments is taken into account.

FHA and GI Mortgage Loans. A substantial proportion of the total mortgage-loan investment in some companies in recent years has been made in government-insured loans.

Under the National Housing Act and its various amendments, the Federal Housing Commissioner is authorized to insure first-mortgage loans of various types which are made by FHA-approved financial institutions, including life insurance companies. The mortgages are made and insured under the "mutual mortgage insurance" plan, which, among other requirements, provides for monthly payments by the mortgagor (or debtor) of "premiums" to the FHA. These premiums plus prepayment penalties and appraisal fees collected by the FHA constitute the mortgage insurance fund.

The two principal classes of FHA mortgage loans are those insured under Title II and Title VI of the National Housing Act.

Loans under Title II are made on dwellings and rental housing projects for amounts (up to a maximum of \$16,000) depending on the percentage of the appraised valuation loaned. Generally speaking, mortgages insured under Title II must meet FHA's requirement of economic soundness which is based on city, neighborhood, property, and mortgagor characteristics.

The maximum interest rate allowable for loans on dwellings (Sec. 203 of the Act) is 4½ per cent in addition to which the mortgagor pays one-half of 1 per cent for mutual mortgage insurance, while the maximum interest rate for rental housing projects (Sec. 207) is 4 per cent with the mortgagor paying the same insurance premium.

In event of default the mortgagee must institute foreclosure proceedings within 1 year from date of default and, upon obtaining title to the property, has the option of either retaining the property or tendering title to the Commissioner for which he will receive debentures issued by the Mutual Mortgage Insur-

ance Fund bearing interest rates of $2\frac{3}{4}$ per cent and 3 per cent; these debentures are guaranteed by the U.S. Treasury and mature 3 years after the original maturity of the mortgage. On Sec. 207 mortgages, the mortgagee may elect to assign the defaulted mortgage to the FHA at 2 per cent discount or may institute foreclosure proceedings and tender title to the Commissioner in return for debentures likewise guaranteed by the U.S. Treasury yielding 3 per cent and $2\frac{3}{4}$ per cent, respectively, and maturing 3 years following original maturity of the mortgage.

Mortgages insured under Title VI are on real estate designed for occupancy by war workers, both rental projects and properties to which the tenant may acquire title. The maximum rate of interest is 4 per cent. In event of default, the lender may transfer his mortgage to the Commissioner in exchange for 10-year debentures guaranteed by the United States and bearing interest at the rate of $2\frac{1}{2}$ per cent, or he may elect to acquire the property by foreclosure and then transfer the property to the Commissioner for debentures equal to the unpaid principal amount of the mortgage plus certain other charges incurred.

The "GI Loans" are made under Title III of the Servicemen's Readjustment Act of 1944. The maximum amount of insured loan is \$4,000 or 50 per cent of the loan whichever is less. Loans are amortizable over not more than 25 years, the monthly payments including insurance and taxes. No premium is paid to the Administrator for insuring the loan. The maximum interest rate is 4 per cent. Only servicemen of the Second World War are eligible borrowers. In event of default, the Administrator directs the lender to institute foreclosure proceedings with instructions to bid in the property at a specified price if no higher bids are received. In the latter case the lender keeps the purchase price and receives insurance of any excess of the amount due. If the lender buys the property at the price specified by the Administrator he may retain it and receive insurance for the excess of the amount due or may transfer it to the Administrator and receive insurance for the full amount.

The demand for these insured mortgages in recent years has become so great that substantial premiums are paid to their

originators, with the result that net yield to purchasers has been substantially reduced. Aggregate foreclosures have not exceeded one-half of 1 per cent of the number of mortgages insured; however, it should be noted that the period covered has not included major unfavorable economic conditions which would provide a real test for the basic soundness of these plans of insuring mortgages.

Opportunities for investments by life insurance companies in mortgage loans, particularly on farms and residential properties, have been greatly affected by federal governmental activities in this field. The governmental agencies that have substantial investments either in mortgage loans or in real estate owned are Federal Land banks, Federal Farm Mortgage Corporation, Farm Security Administration, Home Owners' Loan Corporation, RFC Mortgage Company, Federal National Mortgage Association, Federal Home Loan banks, federally chartered building and loan associations which are members of the Federal Home Loan bank system, and the Federal Public Housing Authority.

Stocks. At one time both common and preferred stocks were an important source of investment for the funds of life insurance companies. In 1905 the report of the Armstrong Committee, which had conducted an investigation of the life insurance companies in New York, expressed the opinion that investment in stocks was fundamentally objectionable and recommended an amendment to the law forbidding such investments. This recommendation was adopted and made effective in 1906 both as to common and preferred stocks. The reason given for this opinion was that if the stock holdings were small the investment was at the mercy of the majority stockholders, while if the stock investments were large there was a temptation to secure full control, with the result that the company purchasing stock was thus led into active participation in enterprises quite foreign to the purposes for which it was chartered. There is some force in these objections, but it is possible to restrict investment in stocks in a reasonable manner and at the same time to permit the companies to avail themselves of suitable and advantageous opportunities for such investment.

Only a few states prohibit investment in common stocks entirely. A great many states prohibit investment in certain specified types of stocks of the more speculative kinds. The law of New York, which since 1906 had forbidden any investment in stocks, whether common or preferred, was amended as of 1928 to permit investment in preferred and guaranteed stocks of corporations under certain conditions and limitations. Under the present statute the general requirements in the case of preferred stocks are that (1) for 5 years net earnings shall have averaged $1\frac{1}{2}$ times fixed charges plus average contingent interest, if any, plus average annual preferred dividend requirement, and (2) for 2 years net earnings shall have been at least $1\frac{1}{2}$ times fixed charges plus contingent interest and preferred-dividend requirements for such years. In the case of guaranteed stocks the requirement is that the net earnings of the guaranting institution shall, for 5 years, have averaged $1\frac{1}{2}$ times average fixed charges and in the last year of the period shall have been at least $1\frac{1}{2}$ times fixed charges of that year.² Most of the companies have taken advantage of the change made in 1928 to purchase high-class preferred stocks at favorable yields.

The general question of the extent, if any, to which life insurance companies should be permitted to invest in common stocks is a controversial one. Although such investments are speculative, the companies are large investors and can therefore afford to take a certain amount of risk in return for a higher yield on at least some part of their total investments. A more important factor is the aggregate volume of assets, which amounted at the end of 1949 to almost 60 billion dollars and is currently increasing by over 3.5 billion dollars annually. It is frequently urged that this important part of the nation's resources should provide at least some part of the funds needed as "venture capital" for the development of commerce and industry. In recent years a further reason has been the low yields obtainable on bonds and mortgages and the need for developing new avenues of investment.

² New York Insurance Law, Sec. 81.

The companies, on the other hand, feel, in general, that since their assets are "trust funds" no substantial proportion of these assets should be invested other than in secured indebtedness. An important practical obstacle to any large investment in either common or preferred stocks is created by the following facts: (1) in the annual financial statements, stocks must be valued at current market prices; and (2) surplus funds (at least of the principal companies) are limited by law to 10 per cent of the total policy reserves. In view of these requirements, a company which had a large investment in stocks might find its surplus seriously depleted if market prices happened to be very low at the date of a financial statement. Under extreme conditions (such as followed the stock-market collapse in 1929) there might even be a danger of technical insolvency even though the company had no need to sell any of its stocks and was quite able to meet all its obligations.

It appears, therefore, that unless the companies were to be permitted to maintain, and did maintain, very much larger surplus funds than at present (which would decrease the amounts available for distribution to policyholders) or unless stocks could be valued in times of depressed values on some basis higher than current market prices (which would be, to some extent at least, questionable and unsatisfactory), it is not practicable to invest more than a very small percentage of the assets in stocks.

Bonds. Bonds, whether government, state, county, municipal, or corporate, are the most convenient outlet for available funds and the most readily realizable of the "permanent" investments. The greater part of the total funds of life insurance companies is invested in bonds—about 68 per cent at the end of 1949. Such investments can normally be made with due regard to the requirements of security, yield, distribution, and convertibility.

Bonds may be broadly divided into the following classes: (1) government (U.S., Canadian, and foreign); (2) governmental subdivisions, state, county, and municipal; (3) railroad; (4) public utility; and (5) miscellaneous corporate bonds.

U.S. Government bonds provide the highest possible degree of security but are not attractive for permanent investment be-

cause of low yield. Prior to the First World War there was practically no investment by life insurance companies in government bonds. During both World Wars very large amounts of government bonds were purchased by the companies, particularly during the Second World War when the total holdings accounted for almost half of the companies' assets in the aggregate. The proportion, of course, varied considerably in different companies. Since 1945 the investment in government bonds has decreased but is still (1951) substantial—about 25 per cent of total assets.

The only foreign government bonds which are held to any extent by United States companies are those of Canada. Nearly all the large companies and many of the smaller ones do business in Canada so that some investment in Canadian securities is suitable and desirable.

State, county, and municipal bonds are rather a mixed group. The issues which would be acceptable investments do not offer a high yield, and this group therefore forms a relatively small proportion of the total bond investment. Many bonds of this type are "tax-free"; *i.e.*, the dividends are not subject to income tax. While this makes them attractive to large individual investors in spite of the low yield, life insurance companies, because of the method by which their income tax is computed do not get the same advantage as an individual investor.

Corporate bonds are normally the backbone of the bond investments of life insurance companies. The investment in railroad bonds, which formerly formed as much as one-third of the total assets, has greatly decreased because of economic difficulties and unsatisfactory experience. The bulk of the corporate bonds now owned or being purchased are those of public-utility companies, such as gas, electric, and transit corporations, and the bonds of miscellaneous industrial corporations.

It was the opinion of the Armstrong Committee that there should be no restrictions on investment in corporate bonds other than collateral trust bonds (bonds secured by shares of stock). The committee felt that the effect of making restrictions would be to exclude the companies from proper opportunities to secure a reasonable return upon their funds. The companies have very

large amounts to invest and must be allowed to use every legitimate field of investment. Under a proper investment policy there is little, if any, necessity for limitations on the right of investing in corporate bonds. Where bonds are secured by shares of stock (collateral trust bonds), they are suitable investments for life insurance companies only if the stocks by which they are secured are suitable for the same purpose.

Collateral Loans Secured by Stocks or Bonds. Collateral loans secured by stocks or bonds are a suitable form of investment for short periods, provided that the market value of the security is maintained in excess of the amount loaned and the stocks or bonds forming the security are such as the company may and would be prepared to hold as a permanent investment.

Legal Restrictions. Some of the legal restrictions imposed by state laws on the investment of life-insurance funds have already been mentioned. The objects of legal regulations of investments are (1) to ensure soundness and to prevent speculation, as by laws prohibiting or restricting investments in stocks or in real estate; (2) to eliminate improper practices, as by laws prohibiting underwriting operations or intended to confine insurance companies to their particular fields of operation; (3) to secure the investment of life-insurance funds in directions favored by the policy of the state legislature, as, for example, the Robertson Law of Texas, which requires that three-fourths of the reserves on policies on the lives of Texas residents shall be invested in certain Texas securities.

The first two of these objects are legitimate, although opinion may differ as to the details. The third is not. Under a system of regulation by the states the *right* to prescribe investments of certain favored types as a necessary condition to doing business within the state is undoubted, but the exercise of that right is ill-advised. The effect of the Texas law was to cause the withdrawal from the state of many of the best companies in the country. This was not because there were no good investments to be had in Texas but because these companies felt that their investment policy should not be dictated by a state government which had no responsibility to the policyholders. If the avail-

able investments are suitable for the investment of life-insurance funds, there is very little doubt that the companies will themselves seek them out. If they are not suitable, the companies should not be compelled to invest in them.³

Many of the state laws contain regulations as to classes of securities in which investments may be made. Some of these laws prescribe the classes that are permitted and prohibit all others; others state the classes of securities that are prohibited, all others being permitted. Possibly the best type of law is that which lays down a restricted list for a certain proportion of the funds, leaving the company entire freedom in the investment of the remainder and thus permitting it to avail itself of any particularly attractive opportunity.⁴

In addition to these laws, others regulating the investment machinery of the companies are to be found in certain states, such as laws requiring investments to be in the corporate name or requiring authorization of all investments by the board of directors or by an executive committee or prohibiting any director or officer from making profit from any investment or transaction in which he was concerned in behalf of the company. Some states prohibit investment in securities not legally issued or which do not bear interest, although the companies are not likely to seek illegal investments or to buy non-interest-bearing securities.

Although there are certain legal restrictions on particular types of investment, such as real estate and stocks, very few restrictions exist on investment in bonds, other than on bonds secured by shares of stock. The most common statutory regulation of mortgage loans is that the amount of the loan shall not exceed

³ Some of the companies that withdrew from Texas because of the Robertson Law have since reentered the state. One reason for doing so was that practical difficulties arose in the transaction and administration of group insurance if the company was not licensed in all states since many large group policyholders had employees in Texas.

⁴ C. W. Hobbs, "The Investment Laws Relating to Insurance Companies," *Proceedings, National Convention of Insurance Commissioners*, 1921, pp. 170, 208.

50 per cent of the value of the property upon which the loan is secured.

Distribution of the Assets. The average distribution of assets among the different classes of investments in the principal companies, as well as the changes which have taken place therein during the past 20 years, may be seen from the table on the following page.

The effect of the changed economic conditions in 1929 and following years and of the war upon the investments of life insurance companies is seen in most of the principal items in this table.

Bonds. The proportion of assets invested in bonds of all types has increased almost 100 per cent since 1929, bonds at present forming more than two-thirds of total assets as compared with about one-third 20 years ago. The principal changes have, for the reasons already explained, been an increase in government, public-utility, and miscellaneous corporate bonds, and a decrease in the bonds of governmental subdivisions and in railroad bonds. Since 1945 the investment in government bonds has been decreasing. The total percentage of assets invested in bonds has also been decreasing gradually since 1945 as a result of sales of government bonds and investment of part of the proceeds in mortgages. Currently, about half of the funds available for investment are being put into bonds.

Stocks. Preferred stocks show a marked increase during the 20-year period but the proportion and volume are small, partly because of statutory limitations and partly for the reasons previously discussed. A factor in the increase was the liberalization of the New York law in 1928 to permit some of the largest companies in the country to invest to a limited extent in preferred and guaranteed stocks, which they had not formerly been able to do. Common stocks show little change, being of relatively negligible amount.

Mortgage Loans. The decrease shown during the 20-year period in the proportion of investments in mortgage loans is due to two factors: (1) extensive foreclosures during the depression years in the 1930's (particularly of farm mortgage loans); and

PERCENTAGE DISTRIBUTION OF ADMITTED ASSETS ¹

(49 United States companies having about 90 per cent of total assets of all companies)

	Percentage of total at Dec. 31		
	1929	1939	1949
Government bonds:			
United States	2.0	18.9	26.1
States, counties, and municipalities	3.4	6.1	1.4
Canada ²	2.3	2.0	2.6
Other foreign governments ²	0.2	0.0	0.0
Total government bonds	7.9	27.0	30.1
Other bonds:			
Railroads	17.4	10.7	5.2
Public utilities	8.5	13.4	16.8
Miscellaneous	1.6	4.8	16.0
Total of other bonds	27.5	28.9	38.0
Total of all bonds	35.4	55.9	68.1
Preferred and guaranteed stocks:			
Railroads	0.2	0.2	0.1
Public utilities	0.5	0.5	0.7
Miscellaneous	0.7	0.8	1.3
Total preferred and guaranteed stocks	1.4	1.5	2.1
Common stocks:			
Railroad	0.2	0.1	0.1
Public utilities	0.1	0.1	0.1
Miscellaneous	0.3	0.2	0.3
Total common stocks	0.6	0.4	0.5
Mortgages:			
Farm	12.0	3.0	1.9
Other	30.0	16.1	18.1
Total mortgages	42.0	19.1	20.0
Real estate	2.1	7.1	2.1
Policy loans and premium notes	13.3	10.8	3.7
Cash	0.7	3.2	1.3
Other admitted assets	4.5	2.0	2.2
Total admitted assets	100.0	100.0	100.0

¹ Figures furnished by the Life Insurance Association of America.² Including securities of all political subdivisions.

(2) large investments during the war in government bonds. Currently the proportions of investment in both farm and other mortgage loans are increasing. The low point was reached in 1946 when mortgage loans were about 14 per cent of assets. Farm loans at one time (1923) reached nearly 20 per cent of total assets but are now less than one-tenth of that figure. A factor in this situation is the much lower net yields now obtainable partly owing to the competition of government agencies. FHA loans form a large and increasing proportion of the total investment in mortgages.

Real Estate. The depression resulted in a large increase in the companies' real-estate holdings due to foreclosure. Much of this has since been disposed of. The trend is again upward due to investments in housing projects and to purchases for income under recent liberalizations of state laws.

Policy Loans. Prior to about 1935 policy loans made up from 10 to 15 per cent of the assets. The proportion reached in 1932, at the peak of the depression—17.9 per cent—was the highest on record. The ratio has steadily decreased since that time, and for several years now (1951) has remained steady at about 3.7 per cent. The decrease has been due to the drastic fall in the general interest rate, to improved economic conditions, and to the extent to which commercial banks have been making loans on life-insurance policies at low interest rates.

Policy loans involve no risk, since failure to repay a loan involves cancellation of an equal liability. The companies, however, do not favor policy loans. The majority of such loans are never repaid, and in many cases a policy loan is merely a prelude to an early surrender of the contract. The average policy loan amounts to only a few hundred dollars, while thousands of loans of very small amounts are made for the purpose of paying premiums, etc. The rate of expense involved in handling such small loans is necessarily very high, and in the case of the smaller loans the true net yield in normal times (*i.e.*, when interest rates are higher than at present) is probably considerably below the average yield on the company's investments as a whole. At present, because of the very low current interest rate obtainable the net

yield on policy loans as a whole is higher than on the company's other investments and higher than the average yield on total funds.

In the past, state laws have required the policy contract to provide for granting policy loans "at a specified rate of interest." The rate of interest specified by most companies has been either 5 per cent payable in advance or 6 per cent payable at the maturity of the loan. In 1938, as a result of the fall in the interest rate obtainable on investments of all kinds and resulting agitation from various sources for a reduced rate of interest on policy loans, the New York Insurance Law was amended to provide for a maximum interest rate in the case of policies delivered after Jan. 1, 1939, of 4.8 per cent payable in advance or the equivalent at the end of the year, such equivalent being practically 5 per cent. As a result, many companies changed their contracts to provide for a rate of 5 per cent at the maturity of the loan. This change, of course, could not affect the terms of contracts already in force which provided for a higher rate, and very few companies have made the reduction retroactive.

This change in the law was due largely to popular clamor, and there was undoubtedly some misunderstanding on the subject, not only in the legislature, but elsewhere. Little attention was given to the special features of policy loans which justify, and indeed require, a relatively high rate. In accordance with the law, the rate must be guaranteed for the entire duration of the contract, which might be a period of 50 or 60 years, or even more. Loans must be made on demand in any amount up to the full value of the policy (unless the company should take advantage of a provision in the contract under which it would have the right to delay the granting of a loan for a specified period, a provision which would not be made use of except in extreme emergency and which is therefore virtually noneffective). Loans must be automatically renewed at the same rate so long as the interest is paid or there is sufficient value in the policy to pay the interest, while the borrower may repay the loan at any time in whole or in part. Loans could not be obtained on such terms anywhere else. There is danger that in times when interest rates are high

there may be a serious drain on the companies in this way which would prevent them from taking advantage of favorable investment opportunities. In the same way, loans are likely to be repaid when the interest rates elsewhere are lower, which is also unfavorable for the company and which has happened to a considerable extent in recent years.

It is also true that any reduction in the rate of interest on policy loans will have a material effect on the net rate of interest earned by the company on all its funds and therefore on the cost of insurance to all policyholders.

Valuation of Assets. In explaining the basis of the values that are placed on the assets for the purpose of a financial statement, a distinction must be made between (1) property other than stock-exchange securities and (2) stock-exchange securities.

Property Other than Stock-exchange Securities. Property other than stock-exchange securities comprises real estate, mortgage loans, policy loans, and cash. The value to be placed on such assets is normally the *book value*, i.e., in the case of real estate the *cost* (subject to any write-up or write-down which has taken place) and in the case of loans the *amount advanced*.

The convention blank ⁵ contains provision on the asset page for showing either an excess over or a deficiency from the market value of real estate as compared with the book value, but as there is no established market value for real estate these adjustments are generally omitted. An *appraisal* could be made of all real-estate holdings and the book values adjusted from year to year. However, appraisals are merely estimates based on current conditions; rather than making frequent changes in book values, the company may, if the book values are considered to be high, deem it preferable to establish an offsetting liability in the form of a special reserve for revaluation of real estate which is expected to cover any loss on sale. The same procedure may be applied to mortgage loans if the security is deemed questionable. Such special reserves are in the nature of contingency

⁵ The form of financial statement required by the state insurance departments, described in Chap. XIII.

funds; and if the book values are actually higher than the amounts expected to be realized on eventual sale or foreclosure, it would be more logical to write down the book values immediately in order to avoid an artificial inflation of the assets. The company's surplus (excess of assets over liabilities) would be the same in either case.

In connection with mortgage loans, an important question is to what extent credit should be taken as an asset for interest due and unpaid. No credit should be taken for such interest unless it is expected that it will be paid or it is considered to be fully covered by the value of the property in event of foreclosure. The present form of annual statement evidently contemplates entering the full amount of unpaid interest as a "nonledger asset" with a subsequent deduction under the head "Assets Not Admitted" for unpaid interest for which the company decides not to take credit. A fairly common practice is to deduct in this way interest that is overdue more than 6 months. Under the present New York statute interest due or accrued on mortgage loans may be included as an asset to an amount not exceeding the value of the property *less* the unpaid loan and *less* any delinquent taxes, but no credit may be taken in any event for interest overdue more than 18 months or for *any* overdue interest if any taxes are in default more than 18 months.

If unpaid interest is capitalized, *i.e.*, added to the loan, it will appear in the company's annual statement as income in the same way as if it had actually been paid, thus increasing both the assets and the interest return thereon. Capitalization of interest is justified only where the security is sufficient to protect the additional loan.

Stock-exchange Securities. The most important questions in regard to valuation of assets arise in connection with bonds and stocks. In the case of listed securities there is available a market value (stock-exchange price) which fluctuates daily and widely. If stock-exchange prices were used for the valuation of all stocks and bonds (comprising, perhaps, from one-half to two-thirds of a company's assets), the financial position as of any stated day

might be quite different from the financial position a week earlier or a week later. Such a financial statement would have very little real meaning. This has been recognized by the state insurance authorities, and most of the states have provided by law or by ruling for a method of valuation of a substantial part of the stock-exchange securities independently of current prices on the stock exchange. The law in the state of New York is typical and is as follows: (1) No stock and no bond that is in default as to either principal or interest or that is not amply secured and no "perpetual" bond (*i.e.*, without maturity date) shall be valued above the market value; (2) all other bonds, *i.e.*, those which are amply secured and not in default, shall be valued on the basis of the purchase price adjusted so as to bring the value to par at maturity and so as to yield meantime the effective rate of interest at which the purchase was made. The values produced by this latter method are called the *amortized* values. The process by which they are obtained will be explained later.

Stock-exchange securities are therefore divided into two groups, (1) *nonamortizable securities*, which must be valued at market prices, and (2) *amortizable bonds*, which are valued at the amortized values independently of market prices. It is necessary to consider these two groups separately.

Nonamortizable Securities. Under normal conditions the only question which can arise in regard to the nonamortizable securities is which bonds not in default are "amply secured" and which are not. No question can exist as to stocks (which are all in the nonamortizable class) nor as to perpetual bonds or bonds in default. The determination of which bonds (not in default) may be deemed amply secured (and thus valued on the basis of amortization of the premium or discount at purchase) and the basis of the market values of nonamortizable securities are in accordance with rules laid down each year by the N.A.I.C. In the case of bonds these rules are largely based on (1) the ratings given in the standard bond manuals and (2) the yield at current, or recent, market price. There has been a tendency to increase the stringency of the qualification test.

Under abnormal conditions in the past, questions have arisen as to the desirability of requiring the companies to use actual market prices for *nonamortizable* securities when these prices were abnormally low. In the years 1917 to 1921, and again from 1931 to 1933, resolutions were adopted by the National Convention (now the National Association) of Insurance Commissioners recommending the adoption of higher values for nonamortizable securities than the actual market prices on Dec. 31, and such higher values were approved by the majority of the state insurance departments in these years and used by most companies. These arbitrary "market values" were known as *convention values* or, sometimes, *commissioners' values*. The insurance laws in general specifically require *market values* for nonamortizable securities, and the authorization of the use of values greater than the actual market prices involved an assumption of authority which might conceivably be open to question unless the insurance commissioner (or other corresponding official) has discretion to make and authorize such an interpretation of the law.

The principle adopted was to substitute for the actual market prices an average price based on the normal "range of the market." Where the condition of a company, however, was such that it might have had to dispose of securities at current prices, these prices and not the higher convention values were to be used. The use of such convention values is justified only where there is no intention or necessity to sell.

Amortizable Bonds. Bonds which qualify under the above-summarized rules are valued by the amortization method. The basic assumptions involved in and justifying such a valuation are (1) that the amounts due for interest and principal will certainly be paid and (2) that it will not be necessary to sell. Just as soon as the *security* is in question or payments are not duly made the bond must be removed to the nonamortizable group and valued at market prices. Until that happens, the bond represents a fully secured right to receive certain payments at certain dates, and the *value* of these payments is simply a matter of arithmetical calculation. The bond was purchased to yield a

certain rate of interest, and its value on that basis is entirely independent of current market conditions, which depend on current interest rates and on the supply and demand in the bond market.

The expression "amortized value" applies, strictly speaking, only to those bonds bought at a premium (above par), but it is generally used, also, in connection with bonds bought below par (at a discount) and refers in each case to the successive adjustments of the original cost (original book value) by which that value is reduced or increased by successive stages until it equals the par value on the maturity date. The method of arriving at these *amortized* or *adjusted* values will now be explained.

A bond represents an obligation to pay a sum of money on a specified date in the future, with interest thereon in the meantime at a specified rate. Interest is usually payable semiannually, coupons being attached to the bond, which are cut off and presented for payment as they become due. Thus a \$1,000, 5 per cent, 20-year bond represents an obligation to pay \$1,000 at the end of 20 years and \$25 at the end of each 6 months during the 20 years. If the price paid for such a bond is exactly \$1,000, the rate of interest yielded to a purchaser by the transaction is exactly 5 per cent (payable semiannually). If a higher price than \$1,000 is paid, the rate of interest actually realized will be less than 5 per cent, since part of the nominal interest (coupon) must be used to write off the amount paid in excess of par so that the book value of the investment may be reduced to \$1,000 at the date when the bond matures. In a similar manner, if the price paid is less than \$1,000, the actual rate of interest realized is greater than 5 per cent. In that case the book value of the investment is increased gradually until it reaches the full \$1,000 at the date of maturity, each increase in the book value being equivalent to an addition to the interest coupon.

When a bond is bought above par, the periodical reduction in the book value required by correct bookkeeping to make the book value at maturity exactly equal to the amount receivable is called *amortization*. The reverse process of writing up the book value

of a bond bought below par (at a discount) is called *accrual of discount*.

The correct method of carrying out these processes is shown in the illustrations given below. Other systems, such as an arbitrary prorata reduction or increase each 6 months, would be possible, but where the amortized value is referred to in state insurance laws or elsewhere the values as ascertained below are intended.

Illustrations of Amortization and Accrual. A bond for \$1,000 having 2 years to run ⁶ and upon which the nominal interest rate payable is 6 per cent (each semiannual coupon being for \$30) is purchased for \$1,018.81.⁷ If the bond had been purchased for \$1,000, the rate of interest yielded to the purchaser would, of course, have been 6 per cent payable semiannually. As the purchase price was more than \$1,000, the actual yield is less and (as may be ascertained by inspection of a bond table) is in this case exactly 5 per cent. In other words, the purchaser has invested \$1,018.81 at 5 per cent, his investment being represented by the right to receive \$1,000 at the end of 2 years together with the right to receive \$30 each 6 months in the meantime. The present value of all these payments discounted at 5 per cent is \$1,018.81. The company has therefore a 5 per cent, not a 6 per cent, investment, and the successive amounts to be credited to interest will be 5 per cent of the amounts under investment, or book values.

The successive book values and the amounts of each coupon representing (1) interest and (2) repayment of premium are arrived at as shown in the following table:

⁶ A short period is taken for purposes of illustration only to avoid unnecessarily lengthy calculations.

⁷ A price has been chosen which involves an exact integral yield (5 per cent) in order to simplify the numerical illustration. Usually the yield is not an exact integer. The coupon rates and interest yields in these illustrations are higher than those currently obtainable (1951) on high-grade bonds such as are purchased by life insurance companies. The purpose here is merely to illustrate the arithmetical process of calculating amortized values.

Half-year period	Book value at beginning of half year	Coupon payable end of half year	Six months' interest at 5 per cent on book value at beginning of half year	Excess of coupon over interest required (amortization)	Book value at end of half year (amortized values)
(1)	(2)	(3)	(4)	(5)	(6)
1	\$1,018.81	\$30	\$25.47	\$4.53	\$1,014.28
2	1,014.28	30	25.36	4.64	1,009.64
3	1,009.64	30	25.24	4.76	1,004.88
4	1,004.88	30	25.12	4.88	1,000.00

The purchase price of the bond, \$1,018.81, is entered as the book value at the date of the investment. Six months later a coupon of \$30 is payable, but the interest on the investment at 5 per cent amounts to only \$25.47. The difference between \$30 and \$25.47 is treated as a repayment of principal. Consequently, the book value of the bond is reduced by \$4.53, making it \$1,014.28, at the beginning of the second period of 6 months. This value is written down at the end of each 6 months in the same manner, as shown in the table, until and including the date of maturity, when the final coupon is exactly sufficient to provide the interest at the required rate on the book value at the beginning of the final half year together with an amount equal to the excess of the book value over the face amount of the bond. The successive values shown in column (6) in the table are the *amortized values* of the bond in question at the end of each period of 6 months.

The following is an illustration of the calculation of "amortized" values in the case of a bond bought below par. Here the book value is gradually increased until it is equal to the redemption value, or face amount, of the bond at the date of maturity.

A \$1,000, 4 per cent bond maturing in 2 years is bought for \$962.83. If the price had been \$1,000, the actual rate of interest yielded to the purchaser by the investment would have been 4

per cent. As a lower price was paid, the yield is greater than 4 per cent. The actual yield at the price stated is in this case exactly 6 per cent. The following table shows the successive book values on the amortization plan:

Half-year period	Book value at beginning of half year	Coupon payable	Six months' interest at 6 per cent on book value	Amount added to book value at end of half year (accrual of discount)	Book value at end of half year (amortized values)
(1)	(2)	(3)	(4)	(5)	(6)
1	\$962.83	\$20	\$28.88	\$8.88	\$971.71
2	971.71	20	29.15	9.15	980.86
3	980.86	20	29.43	9.43	990.29
4	990.29	20	29.71	9.71	1,000.00

As before, the price paid for the bond, \$962.83, is entered as the book value at the date of the investment. When the first semiannual coupon of \$20 becomes due, it is insufficient to provide the necessary interest of 6 per cent on the amount invested for the period of 6 months, which is, as shown in column (4), \$28.88. The difference between the amount of the coupon and the amount required, \$8.88, is obtained by increasing the book value of the bond.⁸ Interest account is credited with the full amount necessary, \$28.88, of which \$20 is received in cash and \$8.88 by an increase in book value of assets. The book value of the bond at the end of the first half year will therefore be \$971.71. This procedure is continued, as shown in the illustration, until the date of maturity of the bond, when the amount of

⁸ The effect of this is the same as if the company had actually received \$28.88 instead of \$20. The additional \$8.88 anticipates part of the difference between the amount due at maturity (\$1,000) and the price paid (\$962.83).

the coupon received, together with the difference between the book value of the bond and the amount actually received when it is repaid, exactly equals the necessary interest on the book value for the final period of 6 months. The \$1,000 which is received in redemption of the bond appears in the accounts of the company, therefore, as \$990.29 repayment of principal and \$9.71 interest. The values shown in the sixth column are the amortized values of the bond at the periods shown.

The amortized value of a bond bears no necessary relation to the amount which could be obtained by the sale of the bond in the open market. Under this system it is assumed that the principal of the bond will certainly be repaid at maturity and that all the coupons will certainly be paid. The only elements entering into the valuation of a bond on the amortization plan are, therefore, the rate of interest involved in the transaction (*i.e.*, the yield corresponding to the price paid), the amounts receivable (whether as principal or "interest"), and the length of time until these amounts are due. Where the bond is fully secured and no doubt exists as to payment of principal or interest, no other factors need be considered.

Sometimes questions are raised as to the propriety of valuing bonds at amounts which may be greatly in excess of or greatly below current market quotations. In view of the large bond holdings of the companies the subject is of importance. Where, as is always the case, a considerable amount is invested in bonds, the method of valuation may make a great difference in the financial position of the company and consequently in the amount of its surplus. For example, four of the largest companies had, on Dec. 31, 1920, bonds the amortized value of which amounted to \$1,858,000,000, the market values being \$1,655,000,000. These four companies had a total surplus of \$127,000,000, so that if the bonds had been valued at the market prices instead of on the amortization plan the surplus would have disappeared unless the amounts allotted for dividends to policyholders had been greatly reduced. Such a valuation would not have been justified. There is no need to follow the fluctuations of the bond market so far as fully secured bonds, not in default, are concerned. To do so

would result in great fluctuations in surpluses. If a sufficient surplus to take care of fluctuations in market prices of all securities had to be maintained, there might be little, if any, surplus available for other purposes where, as in New York, there is a legal limit on the total amount of surplus held.

Reasons that have been advanced for valuing *all* bonds at the market prices on the day of valuation instead of on the basis of amortized values are as follows: (1) The true value of a bond is the amount for which it could be sold, *i.e.*, the market value (2) Amortized values may be considerably greater than market values over a long period of years, and the system may be adopted in such times in order to increase the apparent worth of the assets (3) Amortized values conceal the mistakes of those responsible for investment. (4) In event of the necessity of selling, losses will be shown if amortized values are in excess of the market value. (5) The amortization system may encourage companies to retain bonds of which the amortized values are in excess of the market values and to dispose of those of which the market values are in excess of the amortized values, thus tending to weaken the position of the company. (6) The same bond purchased by different companies at different times and at different prices appears at different values in their balance sheets under the amortization plan, although the security is identical.

In answer to such arguments the following may be said: (1) The quoted market value is no indication of the amount for which a large quantity of bonds may be sold and is not, in any significant sense, the "true" value, the probable *realizable* value of a considerable block of bonds is certain to be very much less than either the quoted market value or the amortized value and, in the extreme case of a sale of *all* bonds held, would certainly be such as to involve the insolvency of the company. (2) The fact that the amortized value may be above the market value over a series of years does not alter the fact that the market value is a matter of no concern to the company if the bond is fully secured and if there is no necessity of disposing of it before its maturity date; moreover, the argument that the system is merely used to show high values for those bonds which have a market value

lower than the amortized value does not hold where the law requires that the total value shown for bonds shall not exceed the total of their amortized values, as is the case in the state of New York. (3) The use of amortized values cannot conceal mistakes in investments so long as the particulars called for in Schedule D of the Convention Blank (Annual Financial Statement) are required.⁹ (4) Normally, the income of a life insurance company exceeds its disbursements; if any unusually heavy disbursements are expected or if disbursements exceed income, the necessary expenditures can be foreseen, and the maturity dates of bonds may be so arranged as to correspond with such liabilities. (5) The argument that there will be a tendency to retain certain bonds and dispose of others is of little importance, as bonds are practically always bought for permanent investment. (6) The fact that different lots of the same security may be carried at different values if the price paid or yield basis was different involves no inconsistency; this is precisely the same thing as where two mortgages are held on similar security but were granted on different terms.

It should be remembered that the nature of life-insurance contracts is such as to require long-term investments. Life insurance companies do not as a rule have to anticipate the necessity of realizing on their securities, and so long as they are satisfied that the coupons will be met and that the bonds will be duly paid at maturity they need not concern themselves with current market prices. Market prices, in any case, are dependent on supply and demand, forces which are to a considerable extent independent of intrinsic value. Demand may depend largely on popularity and ready convertibility as well as on security and yield. In extreme circumstances, such as arise when the Stock Exchange is temporarily closed, as it was at the outbreak of the First World War, the market value disappears entirely. By using the amortized value for bonds the same principle of valuation is applied to the assets as to the liabilities; *i.e.*, to an amount *certainly* payable at a future date is applied the operation of

⁹ See Chap. XIII.

interest or discount on the basis of a fixed yield determined by the price paid.

The use of market values for fully secured bonds is generally advocated only when market prices are low, but if that were the rule it should apply equally when market prices are high. If market values are to be used only when they are less than the amortized values and not when they are greater, the effect is that securities will always be written down and never up. In this way surplus will be diminished and dividends to policyholders reduced. To be able to value fully secured bonds at market prices greatly below the amortized values may be a gratifying indication of financial strength, but it would not be an unmixed blessing to the current generation of policyholders, and particularly to those whose policies are about to mature, since the divisible surplus might be substantially reduced through the use of such values.

CANADA

Investments. The investments of Canadian companies are governed by the Canadian and British Insurance Companies Act, 1932 (as amended in 1950), which provides that such companies registered with the Dominion government may invest in the following: ¹⁰

(1) *Government securities* of or guaranteed by---

- (a) Canada, Australia, Ceylon, India, New Zealand, Pakistan, the Union of South Africa, and the United Kingdom, or any province or state thereof, and Southern Rhodesia and the Republic of Ireland.
- (b) A colony of the United Kingdom.
- (c) The United States of America or a state thereof.
- (d) A country in which the company is carrying on business, or a province or state thereof, or a colony, dependency, territory, or possession thereof in which the company is carrying on business.

¹⁰ The list given here is not in full detail (see Sec. 60 of the Act). Practically all Canadian life insurance companies are registered with the Dominion Insurance Department.

- (2) *Municipal or school corporation securities* in Canada or elsewhere where the company is carrying on business, and securities guaranteed by a municipality in Canada or elsewhere where the company is carrying on business.
- (3) *Bonds secured by annual payment or subsidy* of the government of Canada or of any province sufficient to provide for full payment of interest and principal.
- (4) *Debentures secured by statutory charge* upon real estate, plant, or equipment, on which full interest has been paid regularly for at least 10 years prior to purchase.
- (5) *Revenue bonds* of public authorities operating certain public enterprises in countries in which a company is carrying on business.
- (6) *Securities issued or guaranteed by the International Bank for Reconstruction and Development.*
- (7) *Bonds of a corporation secured by mortgage* on real estate, plant, equipment, or securities of the classes permitted as investments. •
- (8) *Equipment trust certificates* of Canadian and United States railways.
- (9) (a) *Debentures* of a corporation which has paid in the previous 5 years dividends at least equal to the specified annual rate upon all its preferred shares or dividends upon its common shares in the amount required to qualify such shares.
(b) *Debentures* of or guaranteed by a corporation whose earnings over the previous 5-year period were twice its annual interest requirements at the date of purchase and whose earnings in 4 of the 5 years were at least $1\frac{1}{2}$ times such interest requirements.
- (10) *Preferred shares* of a corporation which meet the dividend test set out in (9a) above.
- (11) *Common shares* of a corporation which has paid in the previous 7 years dividends upon its common shares of at least 4 per cent of their value as carried in the capital-stock account of the corporation during the dividend-paying year. Not more than 30 per cent of the total common

shares or of all shares issued by a corporation may be purchased. A company must not purchase either its own shares or the shares of any other life insurance company. A company may not invest more than 15 per cent of its total ledger assets in common shares.

- (12) *Real-estate mortgages* in Canada or elsewhere where the company is carrying on business, up to 60 per cent of the value of the real estate, and larger mortgages if the excess over 60 per cent is guaranteed by the government or a government agency of the country in which the real estate is situated.
- (13) *Real estate for the production of income* where a lease of the real estate is made to, or guaranteed by, a corporation with a dividend record as in (9a) above if 85 per cent of the amount invested is to be returned within 30 years, or the term of the lease if less. Not over 5 per cent of total ledger assets of the company may be so invested—see (18) below—and investment in any one parcel must not exceed $\frac{1}{2}$ per cent of total ledger assets.
- (14) *Investments or loans authorized by the National Housing Acts.*
- (15) *Real estate* needed for use or occupancy and for reasonable expansion or acquired in satisfaction of debts or judgments.
- (16) *Collateral loans* on securities of the classes permitted as investments.
- (17) *Policy loans.*
- (18) *Investments and loans not otherwise permissible*, including all forms of income-producing real estate, up to 3 per cent of total ledger assets. Investment in income-producing real estate under this clause and under (13) above must not in total exceed 5 per cent of total ledger assets, and in one parcel of real estate is not to exceed $\frac{1}{2}$ per cent of total ledger assets.

All securities must be valued for the purpose of the annual statement at values which, in total, do not exceed the sum of

- (1) the amortized values of securities issued or guaranteed by

the government of Canada or of any province thereof or of the United Kingdom or of the United States of America, and (2) the market values, as at a date not more than 60 days prior to the date of the statement, of all other securities. When the market values are unduly depressed, the Minister of Finance (not the Superintendent of Insurance) may authorize the use of values in excess of market values but not exceeding the values used in the previous annual statement (or the book values in the case of securities purchased within the year). Values so authorized by the Minister of Finance correspond to "convention values" in the United States. In every annual statement the market values of all securities owned by the company at the date of the statement must be shown, including those of securities in the amortizable class.

CHAPTER XIII

THE ANNUAL STATEMENT¹

All states require life insurance companies to render an annual report in prescribed form. This is necessary to inform the state authorities as to the financial condition of the company and for the information of the policyholders.

Formerly each state had its own form, or *blank*, but for many years the insurance commissioners of the various states have agreed to adopt a uniform report which is accepted by all states and is known as the *convention blank*.² While the *blank* is uniform, the financial statement (including the assets, liabilities, and surplus) is not necessarily uniform since certain assets may be *admitted* in one state and *not admitted* in another. In the years when convention values for nonamortizable securities were prescribed or permitted in most states, certain states required actual market values to be shown in the annual report. This resulted in differing amounts of admitted assets and surplus for the same company in different states although all were using the "uniform" convention blank. Another source of difference is in the credit (as a deduction from reserve liabilities) for reinsurance. Some states do not allow such a deduction unless the reinsurance company is licensed in the state.

At the present time the convention blank comprises the following:

- (1) a financial statement, *i.e.*, a statement of income, disbursements, assets, and liabilities (respectively, pages 2, 3, 4, and 5 of the blank);

¹ References throughout this chapter, unless otherwise stated, are to the 1949 convention blank. See Appendices K and L.

² From the former title of the N.A.I.C. (National Convention of Insurance Commissioners).

- (2) an exhibit of life insurance issued, terminated, and in force;
- (3) a similar exhibit of annuities and supplementary contracts involving life contingencies;
- (4) a "Gain and Loss Exhibit," or analysis of changes in surplus during the year;
- (5) a series of questions called "General Interrogatories";
- (6) a condensed exhibit of insurance issued, terminated, and in force in the state to which the report is made;
- (7) a number of *schedules* giving detailed information in regard to a variety of matters such as assets, expenses, claims, dividends.

The above information is required by all states. Additional information may be required by individual states because of special requirements of their insurance laws or regulations. For example, New York requires additional schedules (not included in the convention blank) covering (1) real estate held for investment; (2) information required because of the New York law as to limitation of expenses; (3) a separation of the accounts in the case of stock companies as between participating and non-participating business; and (4) additional details as to policies reinsured in other companies.

Life insurance companies are sometimes criticized because of the length and complexity of the convention blank, as during the T.N.E.C. investigation in Washington, D.C., in 1940. Such criticisms overlook two facts, (1) that the blank is prescribed by the state authorities, the companies not being responsible for its length or complexity, and (2) that its purpose is primarily for the information of these authorities, *not* the policyholders of the companies. All companies furnish their policyholders with financial statements in suitable and abbreviated form. The convention blank is obviously unsuited for that purpose.

FINANCIAL STATEMENT

The form of financial statement prescribed in the present convention blank is peculiar and differs from the usual form of

statement used by most other types of commercial corporations. A statement of *ledger assets* is required, which must be supported by statements, *on a cash basis*, of *income* and *disbursements*. The ledger assets are those shown on the books of the company, so that all entries made in the ledger during the year that affect the book values of assets, and only such entries, must appear in the statements of income or disbursements. For example, if an asset (such as a piece of real estate owned) is written down on the ledger, the amount of the write-down must be shown as a "disbursement," while a premium due or interest accrued but not paid is not included in the "income" page.

The ledger assets are not the real or *admitted assets*. In a balance sheet showing the company's true position it is necessary (1) to include assets which have not been received or entered on the ledger, such as interest due or accrued at the date of the statement, which would not be entered on the ledger unless books were kept on an accrual basis; (2) to deduct any assets shown on the ledger which are not considered good assets by the state authorities, such as cash advanced to agents, or which are disallowed by law or departmental ruling, such as office equipment and supplies; and (3) to show the values of bonds and stocks on the basis prescribed (as explained in Chap. XII) rather than on the basis appearing on the company's books, which may, for example, be the actual cost.

These facts, together with the extent of *detail* and *subdivision* called for in connection with many items, result in a complicated form of statement, the general arrangement or sequence of which is as follows:

- (A) Amount of *ledger assets at Jun. 1*.
- (B) Detailed statement of *income*—cash basis.
- (C) Detailed statement of *disbursements*—cash basis.
- (D) Balance, i.e., (A) + (B) - (C), being amount of *ledger assets at Dec. 31*.
- (E) Detailed statement of ledger assets showing total agreeing with (D).

- (F) Detailed statement of *nonledger assets* comprising chiefly (1) interest and rents due and accrued; (2) net uncollected and deferred premiums (explained later); and (3) any *upward* adjustment of the *book* values of bonds and stocks—to agree with the official, or *admitted*, values.
- (G) Amount of *gross assets*, i.e., (E) + (F).
- (H) Detailed statement of *assets not admitted*, including (1) items of *ledger assets* disallowed by state law or departmental ruling and (2) any *downward* adjustment in the book values of bonds and stocks required to bring them to the admitted values.
- (I) Amount of *admitted assets*, i.e., (G) — (H).
- (J) Detailed statement of *liabilities*, the balancing item of which (to equal the admitted assets) is the *surplus*.

At the present time (1951) the Blanks Committee of the N.A.I.C. has under consideration the replacement of this elaborate and unusual form of financial statement by a simplified form consisting of (1) a balance sheet (assets and liabilities) in which the assets are entered directly at their admitted values, i.e., in which all the adjustments now shown in the nonledger assets and the assets not admitted have been made; and (2) a statement of changes in surplus showing the true income and disbursements *applicable* to the year, i.e., on a revenue or accrual basis, and also the increases in policy or other reserves and other miscellaneous liabilities and hence the change in *surplus* during the year. This would correspond closely with the present page 8, Gain and Loss Exhibit, referred to later.

The cash transactions (as now shown) are not, in themselves, significant and do not directly show *how* the company's surplus changed from the amount at Jan. 1 to the amount at Dec. 31, which is one of the important requirements of a financial statement. The fundamental relationship in any such statement of changes in surplus is that the *increase in the funds* (all items of income or disbursement being on an *accrual* basis, i.e., including everything *applicable* to the year, whether or not actually re-

ceived or paid) *less the increase in liabilities equals the increase in surplus.*

The amount of the funds (*i.e.*, admitted assets) will be affected by the *insurance operations*; *i.e.*, they will be increased by premiums and interest and decreased by policy payments and expenses. They will also be affected by the *investment operations*, being increased or decreased by profits and losses on sales of assets and by increases or decreases in the value of assets not sold.

A general outline of a statement of changes in surplus (including all true income and disbursements) might, for example, be as follows:

- (A) Surplus Jan. 1.
- (B) *Increase*³ *from insurance operations*:
 - (1) *Income* (premiums; investment income; miscellaneous).
 - (2) *Charges* (policy payments; expenses; interest on funds deposited).
 - (3) *Income over charges* (accrual basis).
 - (4) Increase in reserves.
 - (5) Increase in surplus from insurance operations: (3) — (4).
- (C) *Increase from investment operations*:
 - (1) From sales.
 - (2) From changes in values of assets.
 - (3) Increase from investment operations: (1) + (2).
- (D) *Increase from insurance and investment operations*: B (5) + C (3).
- (E) *Amount allotted for dividends.*
- (F) *Net increase in surplus*: (D) — (E).
- (G) *Surplus Dec. 31*: (A) + (F).

We may now return to the convention blank and consider each of the pages of the financial statement (pages 2 to 5) in some detail.

³ "Increases" [in (B), (C), (D), or (F)] may be positive or negative.

Income. The reason for the arrangement of the opening entries on page 2 of the blank, consisting of the first three lines headed "Capital Stock," is not clear. Although the amount of paid-up capital (which would be *zero* in the case of a mutual company) is entered as the first item, it is not extended into the money column, and there seems to be no reason for inserting it at this point. The capital stock is a liability which appears on page 5. It is not evident why any increase or decrease of capital (line 3) should not be entered simply as an income item or as a disbursement. Normally the amount extended in this first section, in the case of both stock and mutual companies, will be the amount of ledger assets at the end of the previous year.

The real *income* of a life insurance company consists of premiums and income from investments. The scheme of the convention blank (balance with ledger assets) requires that "income" also include amounts added to funds on deposit (supplementary contracts and dividends deposited), capital gains, and upward adjustments in the book values of assets. •

Premiums are normally the largest item of income. It is peculiar that, in spite of the extensive subdivision of the premium section on page 2, no separation is made in respect to premiums for group insurance or for industrial insurance. In practice, companies writing industrial business subdivide the income, disbursements, and liability pages so as to show items relating to ordinary business separately from industrial business. On the income page the distinction is applied, as a rule, only to premiums and supplementary contracts, while on the disbursements and liability pages a more complete subdivision of the various items is given. Since all the assets of the company are usually liable for all its obligations under policies of every kind, no division of the assets is made as between one class of business and another. Consequently, in order to maintain the balance of total ledger assets in the annual statement, income and disbursements for all classes of business must be shown. Thus where a company has an accident-and-health department, for which a separate statement is made on the casualty blank, the *totals* of income, disbursements, and liabilities for the accident-and-health business

are entered in the life blank. Income and disbursements arising from group insurance are not shown separately in the financial statement, but such information (on an accrual basis) can be obtained from the Gain and Loss Exhibit (pages 8 and 9 of the blank).

The amount of premiums paid in cash (or the equivalent, such as by loan) appears separately for different kinds of business (*i.e.*, life insurance including group and industrial, disability benefits, double indemnity, and annuities) in lines 4 to 7. Any premiums paid by application of *current* dividends are entered in a single total for all classes of business in line 7A. Therefore, the amounts entered in lines 4 to 7 are not the total amounts of premiums received for the various classes of insurance and annuities. In order to get the total *life-insurance* premiums it is necessary to add to line 4 the amount of life-insurance premiums included in line 7A. The subdivision of line 7A is shown in the box at the foot of the page. This must be done for *new* and *renewal* premiums separately and the totals then added together. The reasons for such an awkward arrangement of the important item of premium income are not apparent. The whole premium section could be simplified by

- (1) eliminating the "total gross" and "reinsurance" premiums, showing only the net premium receipts;
- (2) eliminating line 7A, distributing that line among lines 4 to 7; and
- (3) showing the "total" premiums for each line, as well as the "first-year" and "renewal" premiums.

In fact, because of the many subdivisions required, it would be preferable to show only *total* premiums in each "class of business," leaving all subdivision and detail to a separate schedule.

Current dividends allotted in the form of additional insurance will be entered in columns 1 and 5, line 7A, that is, as "new," or "first-year," insurance premiums. Dividends applied under accelerative paid-up or endowment option provisions will be entered in columns 2 and 6, line 7A, as renewal premiums. The

offsetting disbursement items appear in lines 9(c) and (b) on page 3.

Where the cash value of a previously allotted dividend addition is used in payment of the current premium, the transaction is treated as (1) a surrender of the dividend additions for cash and (2) cash payment of premium. The amount, therefore, would be included in line 4 (or 5 to 7 as the case may be), not in 7A. A *current* dividend so applied appears in column 6, line 7A.

The amounts entered in lines 10 and 11, policy proceeds left with the company under optional modes of settlement not involving any life contingency and dividends left on deposit, are not true "income." However, in order that the disbursement items—death claims, matured endowments, surrender values, and dividends to policyholders—may show the full amounts which were payable, it is necessary, under the existing scheme of the blank, to include the full amounts payable in the same way as if they had been paid in cash and, in order to maintain the balance with ledger assets, to make a "cross entry" in "income."

In a statement of changes in surplus, amounts simply left *on deposit* (lines 10 and 11) would be omitted from income since such deposits have normally no effect on the surplus, assuming interest credited to be the same as that earned. The full amounts payable would, in such a statement, be included as "charges," and the balance of surplus would be correctly maintained since both assets and liabilities (including funds on deposit) would be increased by the amounts not actually disbursed. The amount of *interest* credited to such funds on deposit would also be shown as a "charge" on surplus, since the liability for deposited funds is increased and the surplus decreased by the interest added. In the same way, *payments* from the deposited funds, whether for interest or principal, would not be included in "charges" (disbursements), since assets and liabilities are equally decreased by such payments, the surplus not being affected.

The situation is different, however, in regard to the amounts appearing in line 9, *consideration for supplementary contracts involving life contingencies*. These are chiefly the amounts settled under the life-income option and so are not simply *de-*

posits. In effect, the amounts payable are applied as single premiums to purchase life annuities. The liability so created is included in and is a part of the *annuity reserve* on page 5. It is therefore necessary in a statement of changes in surplus to treat these amounts in the same way as *premiums* for annuities, since payments and surplus will depend on and be affected by the mortality rate among the payees in the same way as under regular annuities. In the convention blank the amounts shown in line 9 are, in effect, a part of the premium income and could properly be included in line 7 (annuity premiums). They are, in fact, so treated in the Gain and Loss Exhibit, where they are included with "Premiums and other considerations."

There is another type of "deposit" for which no provision is made in the income page, *viz.*, premiums paid in advance of their due dates, under discount. Such amounts are held as a deposit at interest to be applied in payment of the premiums as they fall due. It is apparently the intention that the total amounts so received, covering both current and future years' premiums (less discount), should be entered as "premiums" in the current year's statement. The advance payments are, however, not premium income until earned and are liable to be withdrawn or refunded (less discount) in the event of the prior death of the insured. It would, therefore, seem more correct to treat premiums paid in advance in the same way as other amounts deposited with the company at interest, *i.e.*, in the same way as supplementary contracts (not involving life contingencies) or dividends deposited. If this were done, each premium, as it became due, would be transferred from the deposit account to the premium account and would appear as premium income in the year in which it was payable.

Amounts received as interest or other income on investments are shown in lines 13 to 21. The amounts entered in these lines are actual collections in cash or its equivalent during the calendar year. The total of these lines, however, does not show the effective cash investment income. It will be remembered that, in the case of bonds bought above par, part of each coupon received is really a repayment of principal. The full amount of the

interest coupon, however, is included in line 15. Consequently, to obtain the effective cash interest income, the amount shown must be reduced by the total amount of *amortization of premium* which appears at the bottom of the disbursement page. In the same way, in the case of bonds bought below par the effective interest earnings of the year are not merely the coupons but the additional principal value obtained by the successive additions, to book values, of *accrual of discount*, which should therefore be added to the coupon amount [see line 28(b)]. A third necessary adjustment is the deduction of any interest paid by the company, which would be entered on page 3. The total as given in line 21, adjusted in the manner indicated, will show the cash-basis investment income of the year. In order to obtain the *earned* investment income, *i.e.*, the income on a revenue or accrual basis *applicable to the calendar year*, it is necessary to adjust this cash income for (1) interest due and accrued (from nonledger assets); (2) any such interest for which credit cannot be taken (from assets not admitted); and (3) any interest paid in advance and not yet due (line 22, page 5). The rate of interest earned by the company could not properly be obtained from the "cash-basis" figure. For example, arrears of interest, as on a mortgage or other loan, covering several years may be received in a single calendar year.

These complications as to such a simple element as investment income illustrate the defective character of the present convention blank as a practical financial statement and the need for a simpler statement on an *accrual* basis.

At the foot of the income page there are two groups of items showing, respectively,

(1) *profits from sale of assets*; and

(2) *increase, by adjustment, in the book values of ledger assets*.

Corresponding items appear at the foot of the disbursements page for losses and write-offs.

Profits or losses on sale show the difference between the sale price and the current ledger value and do not necessarily represent the actual profit or loss as compared with the original cost.

In the case of sale of a nonamortizable bond or a stock, the

amount of profit or loss shown on pages 2 or 3 has no necessary relation to the actual change in asset value. In the case of non-amortizable securities the difference between market and book values is added or deducted, as the case may be, on the asset page, and the actual book value has no significance. A simple example will make this clear.

Consider a nonamortizable security of which the book value at last Dec. 31 was \$1,000 and the market value \$900. In the previous year's annual statement \$100 was deducted on page 4 as an asset not admitted, so that the admitted asset value was reduced to the market value. If this security is sold for \$960, *viz.*, \$40 less than the book value, there will be a "loss on sale" on page 3. The actual effect on the company's surplus, however, would be a *gain* of \$60 because, instead of having a bond with an admitted value of \$900 (assuming the market value to remain the same), the company would have \$960 in cash. It is evident, therefore, that the entries on pages 2 and 3 relating to profits and losses on sale not only do not show the actual profits and losses on the basis of original cost but, in the case of nonamortizable securities, do not show the actual gain or loss in surplus during the current year. They merely show changes in book or ledger values.

An increase or decrease by adjustment, *i.e.*, by writing up or writing down the book value, has the same effect as an actually realized profit or loss *except* in the case of nonamortizable securities. So far as the latter class of securities is concerned, it may be repeated that the book values have no significance whatever, since these must be adjusted to market values by entries on page 4. Thus, in the illustration given above, the bond in question would have an admitted asset value of \$900 (market value) irrespective of what value appeared on the company's books, this being effected by an entry either in nonledger assets or assets not admitted. If, for example, the company had previously written off the particular bond in question to, say, \$600 (requiring an entry of \$400 at the foot of page 3), the reduced book value of \$600 would, in arriving at the admitted assets, have been restored to the market value of \$900 by an entry of \$300 in non-

ledger assets. It is evident that considerable care is necessary, therefore, in interpreting the entries relating to profits and losses, either from sale or maturity of assets. These complications, also, would be eliminated in the type of financial statement (statement of changes in surplus) already described and in which only changes in *admitted asset* values (not *book* values) would appear.

Disbursements. The real *disbursements* of a life insurance company are (1) contract payments and (2) expenses. The scheme of the convention blank (balance with ledger assets) requires that "disbursements" also include payments from funds on deposit, capital losses, and downward adjustments of book values of assets.

Contract payments include death claims, matured endowments, disability benefits, annuities, cash-surrender values, and dividends. Where part of the proceeds of a death claim, matured endowment, or surrender value is applied in repayment of a loan, the full amount will appear as a disbursement, the corresponding reduction in ledger assets being partly in "cash" and partly in "policy loans." Similarly, where the proceeds of a death claim or matured endowment are left with the company under one of the optional-settlement provisions, the full amount will be shown as a disbursement, being offset by the income item "consideration for supplementary contracts," in order to maintain the balance with ledger assets. Premiums waived on account of disability are included with premiums paid in cash on the income page, thus being entered both in income and in disbursements.

The amount of "annuities paid" entered in line 6 does not include payments under supplementary contracts involving life contingencies, which are shown separately in line 11 (a). If these payments were included with regular annuities they would also be included in the "total paid policyholders" (line 10). This would give rise to a duplication since the amount applied in the purchase of such contracts has already appeared in the "total paid policyholders" as a death claim or otherwise in the same or a previous year.

"Surrender values" (line 8) include the cash value allowed for dividend additions of *prior* years surrendered either with the

policy or separately. The original cash value of such additions appeared as a dividend disbursement in the year in which they were allotted so that such payments should not again be shown as "dividends."

"Dividends" shown in line 9 are *current* dividends. Since the statement is on a cash basis, these may be dividends *allotted* in the current year or allotted in the prior year but not applied (as in the case of a December anniversary) until the current year. As in the case of other income and disbursements items, the total amount shown is not that *applicable* to the current year as would be the case on a revenue-basis statement.

"Payments from Deposit Accounts" [lines 11(b) and 12] include interest and instalment payments under supplementary contracts not involving life contingencies, as well as payments of dividends previously deposited and interest thereon. Payments under supplementary contracts involving life contingencies are, as already stated, of the same character as regular annuity payments.

"Expenses" (lines 13 to 26) are shown in considerable detail. The principal categories of expenses are (1) salaries and other compensation of employees; (2) agents' commissions; (3) general overhead or operational expenses including rent, travel, supplies, equipment, etc; (4) legal expenses; (5) maintenance expense of real estate; and (6) taxes.

A division of total expenses into *insurance expenses* and *investment expenses* is given in the Gain and Loss Exhibit. Comparisons of *expense ratios* of different companies based on the relation of total expenses or total insurance expenses to premiums are misleading unless account is taken of the proportions of new and renewal business. First-year expense is five to ten times as great as renewal expense on the same volume of business, so that a company writing a large volume of new business will necessarily show a higher *total* ratio of expenses to premiums than a company that is writing relatively less new business.

Taxes (line 25) are an important part of the total expenses, both insurance and investment. They include state taxes on pre-

miums, the federal income tax, social-security taxes, and taxes on real estate owned.⁴

Lines 33 and 34 show, respectively, capital losses from sale of assets (sales prices less book values) and downward adjustments of book values, including write-offs and amortization, the latter being an adjustment of investment income. These are not true "disbursements."

Assets. The *ledger assets* detailed in the first section on page 4 are the *book values* of all property actually owned at the date of the statement, and for which a value is carried on the company's ledger. The book values for such assets as real estate, bonds, and stocks are not necessarily the actual values which will be admitted by the state insurance authorities. Consequently, adjusting entries are provided under *nonledger assets* and *assets not admitted*, in which is entered the difference between the book values and the admitted values.

The book values may be *cost* or cost as adjusted by periodical writing up or down. In the case of amortizable bonds the book value will normally be the amortized value, *i.e.*, cost adjusted for amortization of premium or accrual of discount. Sometimes the *book values* of *nonamortizable* securities are adjusted at the year's end to equal the admitted values; *i.e.*, the ledger values are actually changed to equal the market values. In that case the adjustments will appear on pages 2 and 3 instead of in nonledger assets and assets not admitted.

The nonledger assets include (1) interest and rent due and accrued; (2) net uncollected and deferred premiums; (3) amounts due from reinsurance companies in connection with death claims, surrender values, etc.; and (4) the adjusting entries in connection with the values of investments.

Accrued interest on securities, mortgage loans, and other loans not in default is a good asset. Interest overdue is a good asset only to the extent that it is covered by the security behind the indebtedness. The only item of overdue interest calling for special attention is *interest due on mortgage loans*. The inten-

⁴ Taxes are discussed more fully in Chap. XIX.

tion evidently is that the full amount of overdue interest shall be inserted as a nonledger asset, any part thereof for which the company does not wish to take credit being deducted as an asset not admitted (line 44B). The amount to be so deducted may be regulated by law or by insurance-department ruling as explained in Chap. XII. If the loan is foreclosed, the amount of the loan will be transferred to the real-estate account. All or part of the unpaid interest may then either be dropped (in which case no entries will appear in the annual statement since such overdue interest is not a ledger asset) or be capitalized and carried over into the real-estate account along with the principal. Any overdue interest so capitalized would appear as income in the current year. If the overdue interest is dropped, the earned interest of the year (revenue basis) would be reduced by the amount dropped, unless it had been treated as not admitted.

The *net amount of uncollected and deferred premiums* (line 29) is not a true asset but rather an adjustment of the policy-reserve liability appearing on page 5. The method of computing the reserve liability usually involves for practical reasons the assumptions (1) that premiums on all policies are paid annually and (2) that all premiums due on or prior to the date of the statement have been paid. The nonledger asset, *net deferred premiums*, refers to the semiannual, quarterly, or monthly instalments of premiums for the current policy year not yet payable but assumed paid in computing the reserve. The *net uncollected premiums* are premiums payable during the last month or two months of the calendar year and not yet reported paid, the policies still standing on the company's books as in force. Because of the days of grace and for other practical reasons, a policy is not actually "lapsed" on the company's books until about 2 months after the due date of the unpaid premium. Since this is really an adjustment of the policy reserve, it is the *net* and not the *gross* premiums that are taken into account. This method of treating these reserve adjustments (i.e., by showing them as an addition to assets instead of as a deduction from the policy reserve) overstates both the assets and liabilities by a rather substantial amount. The mode of treatment therefore not only is somewhat

misleading but may not be understood by some readers to whom it is not clear why premiums which may or may not be paid should be treated as an asset.

So far as amortizable bonds are concerned (*i.e.*, bonds, other than perpetual bonds, which are fully secured and not in default as to principal or interest), the usual procedure, as already stated, is to adjust the ledger values each year to equal the amortized values. The form of the annual statement contemplates such an adjustment through the annual accrual of discount or amortization of premium as shown on the income and disbursements pages. Consequently, no entry will normally appear in line 23 of the non-ledger assets or in line 44 of the assets not admitted, in respect of such securities, the admitted values being the same as the book or ledger values, both being the amortized values.

Nonamortizable securities will normally appear on the ledger at cost or at some adjustment of cost obtained by arbitrarily writing up or writing down the book value. All such securities must be valued for asset purposes at the current market price, so that unless the ledger or book value is adjusted annually to equal the current market value there will always be an adjusting entry either in non-ledger assets (line 23A) or in assets not admitted (line 44A) according as the market values are greater or less than the book values. The book values of nonamortizable securities are not changed except under unusual circumstances. Market values show wide fluctuations in both directions, over a period of years, and nothing is gained by altering the book values since the admitted asset value will in any case be the market value, irrespective of what appears on the books.

It may, however, be considered desirable to change the book values of nonamortizable securities if the market values have definitely fallen to a point considerably below the existing book values and appear likely to remain at a low value indefinitely. Under such circumstances, if book values were not altered, the large adjusting entry which would appear year after year in line 44A might be misunderstood as indicating that the company was overvaluing that portion of its assets on its books. It might therefore be better to write down the book values once and for

all, thus eliminating or greatly reducing the amount of the asset not admitted for the future. It should be noted, however, that all such book entries in respect to nonamortizable securities have no bearing on the actual financial position of the company, *i.e.*, on its admitted assets or surplus; since, whatever procedure is followed, the company can take credit as an admitted asset only for the current market value—no more and no less. Sometimes, when market values are high, a company may not wish to show an increase in surplus which may be purely temporary. In that case it may offset the increased admitted value of nonamortizable securities by setting up a special reserve on the liability page of the statement. This has the same effect on surplus as if the asset value were reduced.

It should be understood that no entry will be made of any "asset not admitted" unless the item referred to is included in the ledger assets. For example, the value of furniture and equipment (line 37) may or may not be shown as a ledger asset since the cost may be treated either as an "investment" (to be gradually written off) or as a current expense. In the latter case, since there is no ledger asset there can be no corresponding asset not admitted.

Admitted Assets. The amount of the admitted assets, *viz.*, the ledger assets increased by the nonledger assets and diminished by the assets not admitted, represents the "true value" of the company's assets, including the values of all items to be received and after deducting all worthless items (or items considered worthless for statement purposes) appearing on the books. The admitted assets are the assets which one must compare with the liabilities in order to determine the solvency of the company and the amount of its surplus.

Liabilities. The liabilities are necessarily stated on a *revenue* basis; *i.e.*, they include both matured and unmatured obligations.

The liabilities appearing on page 5 of the convention blank may be classified into the following main categories:

- (1) the mean reserves, calculated as of the date of the statement, for life-insurance and annuity contracts in force;

- (2) amounts held on deposit and belonging to policyholders or beneficiaries;
- (3) amounts due policyholders, beneficiaries, or other persons not yet paid;
- (4) interest or rent received by the company in advance;
- (5) amounts actually allotted as dividends and payable in the succeeding year or in future years;
- (6) special reserves;
- (7) capital stock.

The total of the actual liabilities (except capital stock) appears on line 39 of page 5. On lines 40 to 42 the company may enter any special reserves of a *voluntary* character, such as, for example, a reserve to cover future reduction in the market values of nonamortizable securities. Such voluntary reserves are not actual liabilities if they are not *required* by law or insurance-department regulations. Consequently they are shown "below the line" (i.e., below line 39 which shows total liabilities). Any special reserve that is *required* to be held should be entered "above the line" as a liability in lines 35 to 38.

The convention blank does not include such voluntary special reserves (held for a particular or *assigned* purpose) nor the capital stock of a stock company (line 43) in the *surplus* shown in line 44, page 5, and which is described as "Unassigned funds (surplus)." Actually, any *voluntary* special reserves and the capital stock are available to meet *any* of the company's liabilities. The true or effective surplus of the company is, therefore, the total of all items entered below line 39, i.e., the excess of the admitted assets over the actual liabilities. This is an important point in connection with laws limiting the maximum surplus which a company may hold.

The policy and annuity reserves (lines 1 to 10) make up by far the largest part of the total liabilities. The amount of these reserves is the result of an actuarial calculation or "inventory" made each year in accordance with the mortality and interest bases adopted for premium rates or such higher basis as the company may have decided to use.

The company is permitted, in computing its reserve liability, to deduct the reserves on amounts reinsured in other "solvent" companies. However, because of certain state laws and rulings the word "solvent" is, in effect, interpreted as "licensed," so that the deduction is not permitted if reinsurance is effected in a company not licensed to transact business in the state to which the financial statement is made. This may result in a substantial overstatement of the reserve liability and a corresponding reduction in surplus and also in the reserves and surplus being stated at different amounts in different states for the same company. It would rarely happen that a company would have reinsurance in an insolvent company. In that case no credit would or should be taken.

Amounts on deposit with the company include amounts held under supplementary contracts not involving life contingencies, dividends deposited at interest, and premiums paid in advance less discount. The reserves for supplementary contracts involving life contingencies are included in the annuity reserve.

Outstanding amounts due to policyholders or other persons include unpaid claims, surrender values, dividends, and expenses. The largest part of this liability will be the amounts required for unpaid claims as shown in the box in the center of page 5. Claims *due but unpaid* are admitted claims in process of payment. Claims *intimated but not yet approved for payment* appear in the second column under the heading "Incomplete Proofs, etc." *Resisted claims* are those for which the company denies liability in whole or in part. The amounts resisted and the reasons for resisting are shown in detail in Schedule F.

The liability for claims *incurred but not yet reported* is necessarily an estimate. This is an important item of liability since many claims, whether for life-insurance, double-indemnity, or disability benefits, are not notified to the company until some time after the occurrence of the event insured against, so that, at the date of a financial statement, there is a substantial but unknown liability on this account. For death claims, a good estimate is obtained from the experience of previous years by using the records of claims where death occurred in one calendar year and

intimation was received in a subsequent year. The amount arrived at in this way will be reduced by the estimated reserve held on such policies to determine the net liability since the reserve for all policies in force is already included in the total reserve liability in line 7.

Other liability items for payments due or accrued and unpaid cover supplementary contracts, surrender values, dividends, and expenses. Among the unpaid expenses an important item is the amount of taxes payable in the following calendar year in respect of business in the current year, such as taxes on premiums and the federal income tax.

Liability for dividends payable after the date of the statement exists only where action has been taken by the directors of the company and includes both the amount required for the regular annual dividends of the succeeding calendar year and for deferred-dividend funds being accumulated to meet dividends payable in future years. Prior to 1907 the latter item was not a legal liability, and amounts held for deferred dividends were sometimes included in the annual statement as part of the surplus funds.

Usually the *dividend year* is the same as the calendar year, and the estimated cost of the dividend payable in the whole of the ensuing year has been determined and approved by the directors and so is definitely a liability. In some cases, however, the dividend year may run from some date other than Jan. 1. In that case it is likely that no action has been taken and therefore no actual liability created in respect of dividends payable in the latter part of the following calendar year. In such circumstances it would be proper to show as a liability only the amount required for those dividends which have actually been allotted and which are payable in the first few months of the year. It is usual, however, either to set up a liability sufficient to cover a full year's dividends or to show as a separate item a special reserve for dividends (on a scale to be determined later) payable after the date when the new scale will take effect.

Special reserves may be amounts definitely set aside for specific purposes such as the special investment reserves referred to in

Chap. XII or for strengthening of reserve bases, or they may be merely nominally earmarked portions of the surplus appearing in the statement under such general descriptions as *investment reserve*, *mortality-fluctuation reserve*, *contingency reserve*. As already stated, *voluntary* special reserves are not actual liabilities. Amounts voluntarily set aside either for specific or for general purposes could be used, if necessary, for other purposes. In some companies the voluntary special reserves (*i.e.*, those appearing below line 39) form the balancing item between the assets and the liabilities, the amount of "Unassigned funds (surplus)" being entered as nil. This practice occasionally gives rise to misunderstanding, and it seems desirable that practice in stating surplus should be uniform.

The *reserve to cover the nondeduction of deferred fractional premiums* (line 34) is properly a part of the regular policy reserve and should be included in that reserve instead of as a separate item. It is a reserve of a definitely calculated amount for a specific insurance benefit and therefore a part of the policy reserve.

POLICY EXHIBIT

The *policy exhibit* shows the number and amount of policies in force at the end of the previous year, the increases and decreases during the year, and the numbers and amounts in force at the end of the statement year. A separate exhibit is required for industrial business. Group business is shown in a separate column in the ordinary exhibit.

Most of the entries in the policy exhibit require no explanation. The amount *increased* may arise from such transactions as a change from a higher- to a lower-premium plan for a larger amount of insurance. The amount *decreased* arises largely from changes to reduced paid-up insurance. Termination by *disability* refers to certain types of contracts formerly issued providing for payment of the sum insured in instalments on the occurrence of disability.

A defect in the exhibit for comparative purposes arises from the fact that there are no standard rules for preparing it. The same transaction may be handled differently in different com-

panies. Thus, term insurance automatically converted to a permanent plan at the expiry of the term period may be entered as new insurance issued and term insurance expired, or the transaction may be shown simply as a transfer from one class of insurance to the other. Again, policies which lapse and are subsequently restored in the same calendar year may or may not be included in the terminations and in the insurance *revived during year*. Uniform rules covering these and other points would be desirable.

It should be particularly noted that it is not possible to tell from the policy exhibit what proportion of policies *issued* eventually terminate by death, surrender, lapse, etc. Failure to understand this has led uninformed critics to draw entirely erroneous conclusions from the policy exhibit. The terminations shown in the policy exhibit are those for a single year occurring out of business issued in all years. The proportion of terminations by death in a single year to all terminations in that year gives no indication of the proportion of policies issued which will eventually terminate by death. In a young company, for example, the majority of the terminations will be from lapse or surrender and only a relatively small number from death, and in any company the proportion of terminations from different causes in any year will be greatly affected by the amounts of new business issued in recent years. The *average duration* of policies issued is, in most companies, very much higher than is generally supposed. It is only during the first few years after issue that termination rates are, relatively, high.

The exhibit of annuities and supplementary contracts involving life contingencies was added to the convention blank in 1936. This exhibit gives, in general, information of a character similar to that contained in the policy exhibit for life-insurance policies.

THE GAIN AND LOSS EXHIBIT

The object of the Gain and Loss Exhibit is to show the sources of increases and decreases in surplus during the year. Changes in the surplus will be caused, in general, by (1) the difference between the *assumed* rates of interest, mortality, expense, etc.

(involved in the calculation of premiums and reserves), and the rates actually experienced; (2) capital gains or losses resulting from sale of assets or from increases or decreases in the admitted values of assets (as from changes in the market values of non-amortizable securities or in the book values of real estate); (3) the establishing of or change in any special reserves or by changes in the mortality or interest bases of the reserves held for existing insurance or annuity contracts; and (4) the allotment of surplus for distribution to policyholders or stockholders as dividends.

The words "Gain" and "Loss" in the title of the exhibit are unfortunate since an *increase* in surplus is not necessarily a gain or profit in the usual sense, while a *decrease* in surplus is not necessarily a loss. For example, in a company operating on the net-level-premium-reserve plan the full reserve on that basis is established in the year of issue although the actual net cash income from new policies, after paying commissions and expenses, will usually be less than the first-year mean reserve. This causes a decrease in surplus although no loss has been sustained. If the policy lapses the following year and (as would usually be the case) no cash value is paid, the reserve is then "released"; there is, in that year, an increase in surplus, but obviously there is not a gain or profit of the amount released. The actual profit or loss on the whole transaction could be determined only by a debit-and-credit accounting of the amounts received and paid by the company, with allowance for the cost of insurance, share of overhead expense, etc. As another example, the increase or decrease in surplus caused by sale of an asset is the difference between the sale price and the *admitted asset value*, which may not be the cost. Here, again, the actual profit or loss resulting from the investment can be determined only by comparing actual expenditures and receipts.

Furthermore, the increases in surplus which arise from such factors as the excess of loadings over expenses, the excess of "expected" over "actual" mortality, or the excess of interest earned over interest "required" are not profits in the usual sense of the term—at least in mutual companies—since the scheme of

operation involves conservative assumptions with an adjustment of cost to the policyholder by means of dividends.

Failure to recognize these elementary facts has been the cause of much undeserved criticism of life insurance companies by ignorant or hostile critics who have pointed to the large "profits" which it was claimed were made by the companies as from mortality or from surrender and lapse and whose criticisms appeared to be borne out by the "gains" and "losses" in the Gain and Loss Exhibit. In such criticisms, the important item in the exhibit, "Dividends to Policyholders," is generally not mentioned.

An analysis of increases and decreases in surplus may be made (1) by *source* or *cause* of the change, such as excess of loadings over expenses; (2) by *line of business*, *i.e.*, life insurance, disability benefits, double indemnity, annuities, separating in each case (so far as applicable) ordinary, group, and industrial business, the exhibit showing the change in surplus due to each line; or (3) *a combination of (1) and (2)* under which the change from each line of business is analyzed by source or cause.

Prior to 1925 the form of Gain and Loss Exhibit in the convention blank was of the first of these three types, *i.e.*, an analysis of changes in surplus by *source* for all lines of business combined. In this exhibit the only items of gain or loss relating to particular lines were: (1) gain or loss from mortality among annuitants, which was not combined with the gain or loss from mortality under life-insurance policies; (2) gain or loss from disability experience, *i.e.*, from rates of claim and from rates of death or recovery of disabled lives; (3) gain or loss from double indemnity, *i.e.*, from the accident rate under the double-indemnity business. The general form of the exhibit (omitting details and minor items and simplifying the arrangement) was as follows:

GAINS AND LOSSES IN SURPLUS BY SOURCE

(A) From insurance operations:

Gain or loss from

1. Excess of loadings (all lines) over insurance expenses.
2. Excess of net interest earned over interest required to maintain reserves.

3. Excess of "tabular" or "expected" net mortality cost (after deducting reserves on expected claims) over actual net cost.
 4. Excess of reserves released on surrenders and lapses over cash values, etc., allowed.
 5. Mortality among annuitants.
 6. Disability experience (rates of occurrence and termination of claims).
 7. Double-indemnity experience (claim rate).
- (B) Capital gains and losses:
1. From sale of assets.
 2. From change in admitted value of assets.
 3. Miscellaneous profits and losses.
- (C) Changes in special reserves.
- (D) Dividends allotted:
1. To policyholders.
 2. To stockholders.
- (E) Net change in surplus (to balance exhibit).

The main defect of this type of exhibit was its failure to show the effect on surplus of each line of business separately. Moreover, those who did not read the exhibit carefully were apt to suppose that the items numbered 5, 6, and 7 of Sec. (A) in the above outline represented the entire gains or losses in surplus from annuities, disability benefits, or double indemnity, respectively, whereas these items included only the "experience" gain or loss, corresponding to the gain or loss from mortality under life-insurance business, *i.e.*, exclusive of gain or loss from interest, expenses, investments, or other sources.

Beginning in 1925 the Gain and Loss Exhibit, in addition to an analysis of surplus changes by source (as formerly), included an "Exhibit of the Changes in Surplus for the Year according to Classes or Lines of Business." This latter exhibit showed the *net* change in surplus (from all causes or sources) for each of the following lines of business: ordinary-life insurance, industrial life insurance, group life insurance, annuities, disability benefits, and double indemnity. It was thus possible to ascertain from the

convention blank the aggregate (net) gains from each *line* or the aggregate gains from each *source* (such as loadings over expenses) but not the gains by source within each line of business, as, for example, the gains from loadings on annuity business.

This dual form of exhibit was continued until 1939, when the present form of Gain and Loss Exhibit was adopted. This is an analysis *by lines of business* similar in general character to the 1925 additional exhibit but differing from it in some important respects. The old-form exhibit, by *source* of surplus, was discontinued entirely in 1939, but the information which it contained may be derived by use of the "Analysis of Increase in Reserve during the Year," which now forms the second page of the exhibit. This will be explained later.

The Gain and Loss Exhibit proper (page 8 of the present blank) is on an accrual basis, which means that all items in (1) nonledger assets, (2) assets not admitted, and (3) liabilities, which affect the income or disbursements, *applicable* to the year of the statement, are combined with the corresponding cash items on pages 2 and 3. The exhibit is divided into three parts: (1) Insurance Exhibit, showing the net gain or loss in surplus *from insurance operations* for each line of business; (2) Investment Profit and Loss Exhibit, showing, *for the company as a whole*,⁵ the net profit or loss from sales and changes in admitted asset values of investments; (3) Miscellaneous and Surplus Exhibit, showing dividends allotted and accounting for the change in surplus during the year.

The Insurance Exhibit is based on the following relation:

- (1) Excess of income over disbursements (accrual basis) *less*
- (2) Increase in reserves *plus* increase in special reserves and assets not admitted (exclusive of investment items) *equals*
- (3) Net gain from insurance.

Dividends paid are not included among the disbursements in the Insurance Exhibit. This is correct since the object is to show

⁵ A separation is required, however, for industrial business.

the amount of surplus created. The *disposal* of the surplus earned (by payment as dividends or as an addition to the previously existing surplus) is shown in the Miscellaneous and Surplus Exhibit.

The Investment Exhibit shows gains or losses from sales or changes in admitted values of investments (affecting surplus) and also changes in any special investment reserves held. No allocation is made of investment profits and losses by *line of business* (except for industrial insurance). This may be considered logical since all assets are held against the total liabilities of the company and there can be, in fact, no segregation of *assets* by line of business.

The Miscellaneous and Surplus Exhibit summarizes the results of the year's operations as follows:

Surplus Dec. 31 of previous year:

- + Net gain from insurance (from Insurance Exhibit).
- + Net profit from investment (from Investment Exhibit).
- + Surplus paid in or transferred from capital.
- Dividends to policyholders.
- Dividends to stockholders.
- Increase in *general* contingency reserves
(not held exclusively for insurance or investment).
- = Surplus Dec. 31 of current year.

The present form of exhibit (page 8) is subject to the same limitations as the 1925 analysis by lines of business in that allocation of certain items of income and disbursements between different lines of business can be made only on an estimated or approximate basis. When such an analysis was first required, many companies which had not previously attempted to make such allocations by line of business had to use rather rough-and-ready methods as to certain items, so that the statements as furnished were imperfect. Most companies have now developed, through cost analyses and other methods, more reliable processes producing more significant results.

The old type of analysis by source was dropped in 1939, largely

because of the many misunderstandings which it created and its misuse by ill-informed critics of the life-insurance business. In place of this analysis by source the exhibit now includes an analysis of the increase in the policy reserves (page 9 of the blank). By means of this analysis, properly qualified persons (such as the actuaries of the state insurance departments) can compute the gains and losses in surplus by source, not only for the business as a whole but for each line of business separately.

An explanation of this analysis, which is highly technical, would go beyond the scope of this book, and the nonactuarial reader need not concern himself with it. Others may find it an interesting and instructive exercise to work out the various gains and losses by source for different lines of business (using the published statement of some company, showing all entries completed). For the benefit of such readers the following two examples are given:

1. Gain from loading—annuity business:

- (1) Gross premiums (accrual basis) P. 8, line 1, col. (6)
- (2) Net premiums corresponding P. 9, line 51, col. (6)
- (3) Loading = difference (1) - (2)
- (4) Expenses P. 8, lines 10-12, col. (6)
- (5) Gain from loading (3) - (4)

2. Gain from mortality—life-insurance business:

- (1) "Expected mortality" (Tabular Cost) P. 9, line 59, col. (3)
- (2) Death claims (gross) P. 8, line 6, col. (3)
- (3) Reserves on death claims P. 9, line 60, col. (3)
- (4) "Actual mortality" (2) - (3)
- (5) Gain from mortality on insurance (1) - (4)

THE SCHEDULES

The information contained in the schedules is summarized below. The most important schedules are those which furnish detailed information regarding the company's principal investments, *viz.*, Schedules A, B, and D. Much of the *detail* of the information given in the other schedules is not of great importance. The information furnished in many of the schedules, if presented in considerably condensed or summarized form instead of in lengthy, detailed lists of individual items or transactions,

would meet all reasonable requirements and would eliminate a great deal of unnecessary trouble and expense, in view of the fact that the state insurance departments, for whom the blank is prepared, have access to all the records of the companies, particularly during their periodical examinations.

Following the General Interrogatories and the statement of business within the particular state where the blank is filed, there are two *deposit schedules*. The first of these gives particulars of any amounts deposited by the company that are not available for the protection of all policyholders. An example of such a deposit would be a deposit with the Canadian government by a United States company doing business in Canada, which is held for the protection of Canadian policyholders only. The second schedule shows all other deposits, other than the regular deposits in banks, etc. These would include, for example, any deposit required by the company's home state not held for the benefit of any particular group of policyholders.

Schedule A. Schedule A relates to real estate. It is divided into two parts, the first of which gives particulars of real estate owned and the second of real estate sold during the year. Real estate owned is divided into that acquired in the current year and that acquired prior to the current year. Information is given covering description, cost, value, income, and expenses. A summary of the value of real estate owned is given by states, this summary being divided into farm property and other property. The second part of Schedule A gives similar information in regard to property sold, together with the profit or loss on sale.

Schedule B. Schedule B relates to mortgage loans and is divided into three parts. The first part is divided into two sections: (1) a summary of mortgage loans owned and of the changes during the year; (2) a summary of loans owned, by states, and by foreign countries. A separation is made between farm mortgages and all others, and in these two classes between purchase-money mortgages and others.

Part 2 is divided into three sections: (1) a summary, by states, of loans on which interest is not more than 3 months overdue and which are not in process of foreclosure; items of over \$250,000

or exceeding $\frac{1}{2}$ per cent of the admitted assets and loans on which taxes, etc., are delinquent more than 1 year are listed individually; (2) a summary, by states, of loans on which interest is overdue more than 3 months and which are not in process of foreclosure; loans on which interest or taxes, etc., are delinquent over 1 year or which exceed \$100,000, or $\frac{1}{5}$ per cent of assets, are listed individually; (3) an individual list, classified by states, of loans in process of foreclosure.

Part 3 is a detailed list, classified by states, of mortgages which have been foreclosed during the year, showing any items capitalized.

Schedule C. Information as to collateral loans (loans on collateral security) in force, made or repaid. These form an insignificant part of the assets in all cases. Most companies have none.

Schedule D. Schedule D relates to bonds and stocks and is divided into four parts: (1) bonds owned; (2) stocks owned; (3) bonds and stocks acquired; (4) bonds and stocks sold, redeemed, or otherwise disposed of. Parts (1) and (2) show in great detail (i) the description of each security; (ii) its value on various bases: cost, book, market, par, and amortized (where applicable); (iii) the amount of income received: in the case of bonds, income due and accrued and the rate at which purchased, and, in the case of stocks, the rate of income during the last 3 years.

Following Part (2) there is a summary of the book, par, market, and amortized values and original cost of all bonds and stocks owned. Bonds are classified under the headings (i) Government; (ii) States, etc.; (iii) Other Political Subdivisions; (iv) Railroad; (v) Public Utility; and (vi) Industrial and miscellaneous. Stocks are classified as (i) Railroad; (ii) Public Utility; (iii) Banks, Trust and Insurance Companies; and (iv) Industrial and miscellaneous. Each of the foregoing groups is further subdivided into (a) United States; (b) Canada; (c) Other countries.

Part (3), which deals with bonds and stocks acquired during the year, shows the description, name of vendor, cost, and par value of the securities purchased. Part (4) gives similar informa-

tion in regard to securities sold, including the profit or loss on sale.

Schedule E. Amount of each bank balance carried as of the date of the statement as well as the largest balance in each bank for each month of the year and also the rate of interest receivable, if any, and the amount of interest received. Amounts deposited in suspended banks or trust companies are listed separately.

Schedule F. Claims for death losses or other policy claims resisted or compromised, showing the amount claimed, the amount paid, if any, the amount resisted, and the reason for resisting or compromising. The schedule is divided into two parts: (1) claims disposed of during the year; (2) claims resisted at the date of the statement. Each part is subdivided into death claims, disability claims, double-indemnity claims, and others.

Schedule G. Schedule G shows "all payments in excess of \$500 to each Trade Association, Service Organization, Statistical, Actuarial or Rating Bureau or Organization during the year, and showing all salaries, compensation and emoluments, excepting bona fide commissions paid to or retained by agents, *of whatever amount* received in the current year by officers and directors and, where the same amounted to more than \$5,000, *by any person, firm or corporation* except for amounts included in Schedules I, J and K." In the case of employees who are not officers or directors and who were paid less than \$10,000, only the total number of employees and the total amount paid are required.

Schedule H. "Accident and Health Exhibit," showing Gross Premiums, Losses, and Expenses. (Many life insurance companies also transact accident-and-health insurance.) The exhibit gives data on group policies and individual policies separately, the latter being subdivided according to different types of coverage.

Schedule I. Commissions exceeding \$5,000 paid on loans or on purchase or sale of property, including the name and address of the payee, the amount involved in the transaction, and the amount of commission paid.

Schedule J. Legal expenses, showing the name and address of the payee, the amount paid, and the reason for the expense. Amounts less than \$100 are shown in total.

Schedule K. Similar particulars of expenses in connection with legislative matters, appearances before legislative bodies, etc.

Schedule L. Proceedings at the last previous election of directors, including the names of the candidates, the number of votes cast for each, and a copy of the official minutes of the annual meeting.

Schedule M. Specimen rates of annual dividends paid during the year of the statement, together with a precise statement of the method by which such dividends were calculated.

Schedule O. Particulars of losses and claims in the accident-and-health department.

Schedule Q. See below (page 341).

Schedule R. Summary and reserve calculation in respect of all policies reinsured in other companies.

Schedule S. Amounts recoverable for reinsurance in respect of policy claims with the name and location of the reinsuring companies.

Schedule T. Exhibit, by states and territories, of premiums collected showing insurance, annuity, and accident-and-health premiums separately. Dividends applied to purchase paid-up additions or to shorten the premium-paying or endowment period and premiums waived on account of disability are not included in the state totals but are added to the final totals. This schedule was added in 1937 with the object of furnishing information required in connection with state taxes on premiums. A statement of the basis of allocation of the premium income by states is required.

Schedule X. Particulars of any property not included as an asset in the financial statement, *i.e.*, "Unlisted Assets" considered of doubtful or no value.

In addition this schedule gives particulars of any property (except furniture, supplies, etc., and except that shown in Schedules A to D) acquired or transferred to Schedule X or sold or transferred from Schedule X during the year.

It will be seen that some of the schedules merely give the full details of corresponding items in the accounts. Others are re-

quired because of the general policy of publicity which is part of the system of supervision by the states. The schedules originated out of the findings of the Armstrong Committee. For example, Schedule E, giving details of bank balances, was proposed because of the practice of a few companies of maintaining unduly large and inactive accounts in banks in which they or their officers held stock. In many matters no actual restrictions or limitations are set, but reliance is placed on publicity to prevent improper practices.

The general principle of giving full publicity to all the transactions of the companies is to be commended. It is much better to allow the companies freedom of action and to rely on publicity and the supervision of the insurance departments than to impose unnecessary restrictions on the detailed operation of the business. Under the laws the state insurance departments have considerable power. By their periodical examinations of the affairs of the companies they are kept fully informed of all details.

Limitation of Expenses. Two states, New York and Wisconsin, have laws limiting the amount which may be spent on expenses. The New York law requires a schedule (Schedule Q) showing certain details of expenses in connection with new business and also (in the case of companies doing a participating business) with respect to the business of the company as a whole, in order to show whether the law is being complied with. Schedule Q is not a part of the convention blank but is a New York State blank.

The limitation of new-business expense and of total expense by law was one of the results of the Armstrong investigation of 1905 and arose out of the extravagance prevalent prior to that time, chiefly in rates of initial commission. The law, as originally passed in 1906 and as it remained until 1929, provided that the expenses chargeable to new business should not exceed the sum of (1) premium loadings (on the basis of the American Experience Table and $3\frac{1}{2}$ per cent interest), (2) assumed mortality gains by the select and ultimate method,⁶ and (3) the excess of

⁶ See page 154.

gross premiums paid over net cost of insurance in respect of new insurance terminated in the first year. Total insurance expenses were limited to total actual loadings plus assumed mortality gains included in the first-year "margins." The limit on total expenses applied only to participating business. Because of the large excess of renewal loading in participating premiums over the amount necessary for expenses, the limitation on total expense was purely nominal in practically every case, and the only significant part of the law was that relating to new business.

Principally because of changing mortality experience, the tendency to reduce gross premiums, and the inelasticity of the rule in its application to different types of policies, the whole situation was reviewed by a committee appointed by the Superintendent of Insurance, and an entirely new basis for the limitation of expenses was enacted in 1929. This law has been amended on various occasions. At the present time (1951) a further revision is under consideration.

Under the present law the total amount of certain specified *first-year expenses* must not exceed the total of the items specified as the *first-year-expense limit*.

The specified *first-year expenses* (exclusive of certain adjustments where agents are compensated, in whole or in part, on any other plan or basis than commissions) are, in general:

1. First-year commissions.
2. Compensation, not paid by commission, for services, other than supervision, in obtaining new business.
3. Advances to agents.
4. Salaries and expenses of home-office personnel who spend more than one-third of their time in the field.
5. The *excess*, if any, of renewal commissions and service or collection fees, compensation paid under special plans, other than commissions, cost of agency supervision, cost of agents' retirement plan, and certain branch-office and agency expenses *over* the sum of 2 per cent of insurance renewal premiums, 6 per cent of annuity renewal premiums, \$1 per thousand of insurance in force, and an additional \$1.25 per thousand of premium-paying

insurance in force. (Usually there is no excess under this item.)

6. Sixty per cent of the expense of advertising.

The *first-year-expense limit* consists of the following items:

1. A percentage of first-year insurance premiums (other than single premiums) depending on distribution by plan and normally approximating 50 per cent.

2. Three and a half per cent of single premiums for insurance and annuities.

3. Thirty per cent of new annual premiums on annuities.

4. One dollar per thousand of all new insurance.

5. An additional \$1 per thousand of new insurance issued and in force at the end of the year.

A company with less than 500 million dollars of insurance in force is allowed an additional expense limit of 50 per cent of the total of the above items less $\frac{1}{10}$ of 1 per cent for each million in force.

The law further requires that the total of the first three items of first-year expenses (as listed above) must not exceed the first three items of the expense limit (as listed above) plus one-half of the other two.

Total insurance expenses, which for this purpose exclude taxes, must not exceed the sum of (1) the limit for first-year expenses, (2) 6 per cent of renewal premiums, (3) \$2 per thousand of *new* insurance in force at Dec. 31, (4) \$3 per thousand of *total* insurance in force at Dec. 31, and (5) \$1 for each \$100 of annual income under annuities and supplementary contracts in force. The limit on *total* expenses does not apply to stock companies.

In general the purpose of the New York law is to limit expenses to a *reasonable* percentage of premiums plus an overhead allowance based on insurance issued and in force. This is very much better than the original law, which was not at all adapted to changing or unusual conditions and which did not work out well when applied to companies charging widely differing rates of premiums.

Because of amendments to the law in recent years to provide for special plans and methods of compensating agents, the law and the expense-limitation provisions have become extremely

complicated. It is likely that there will be, before long, a radical revision and simplification.

Under the Wisconsin law the total of (1) commissions, (2) advances to agents, (3) expense of medical examination and inspection, and (4) the due proportion of other expense chargeable to new business must not, in general, exceed the sum of (a) the loading, (b) the excess, if any, of the first year's premium over the largest subsequent premium, and (c) the excess of the net premium for a 20-payment life policy over the net premium for 1-year term insurance. With reference to (a), the Wisconsin law contains a rule limiting the amount of loading in the gross premium on any policy. Wisconsin is the only state placing any limit on the amount of the loading which may be added to the net premiums. Item (b) would usually be nil.

CANADA

Annual Statement. The form of annual statement required from Canadian companies by the Dominion Insurance Department is similar in content to the United States Convention blank, as regards both accounts and schedules. The Canadian statement does not include the Gain and Loss Exhibit or an exhibit of changes in surplus according to classes of business. It includes, however, the following, which are not in the convention blank:

1. Exhibit of insurance in force with disability benefits.
2. A "miscellaneous statement" which calls for full information regarding the methods used in calculating the reserve and in the distribution of surplus, as well as certain other information.
3. A schedule showing the separation of accounts as between participating and nonparticipating business.
4. Exhibit of policies showing details for ordinary, industrial, and group insurance, separately.
5. A schedule of profits contingently apportioned and credited on deferred-dividend policies.

An important feature of the Canadian blank is that the actuary of the company must certify, not only that the statutory requirements as to reserves have been complied with, but that in his opinion the reserves held make a good and sufficient provision

for all the unmatured obligations of the company under its policies. Several alternative tables are prescribed for computing reserves but other tables and methods may be used if approved by the superintendent.

The following minor differences in the form of accounts may be noted:

Assets. Instead of *net* deferred and uncollected premiums, the statement shows the *gross* premiums less "commissions and estimated loss in collection."

Liabilities. The net reserve for all policies and annuities is shown in a single item, full details being given in a separate "Statement of Actuarial Liabilities," which is classified according to participating and nonparticipating business and within each class according to plan of insurance. The reserve held for income benefits payable to disabled policyholders is included in the annuity reserve.

Income. Premiums are classified as first-year, renewal, or single and are given separately for assurance, annuities, and "sinking-fund and capital redemption policies."⁷ Interest is shown net (*i.e.*, deducting interest paid), and rents are shown less real-estate taxes and expenses, instead of the latter being shown among the disbursements as in the convention blank.

Disbursements. Claim disbursements are classified as life assurance, annuity, and sinking-fund assurances, each being suitably subdivided. Taxes do not include taxes on real estate, which, as stated above, are deducted from rents. Expenses (excluding expenses on real estate) are shown under three general headings, *viz.*, "Head Office Expenses," "Branch Office and Agency Expenses," and "All Other Expenses," each item being further subdivided.

Foreign companies are required to file a corresponding statement covering business in Canada.

⁷ These are purely investment contracts providing for accumulation of premiums with interest. They are not issued in the United States.

CHAPTER XIV

DISABILITY BENEFITS AND DOUBLE INDEMNITY

DISABILITY BENEFITS

The inclusion in life policies of provision for certain benefits payable in event of the total and permanent disablement of the insured is one of the most important modern developments of life insurance. The origin of such provisions was the idea that there should be some protection against loss of earning power through disability because of which the insured might be unable to continue premium payments, and the disability provision originally consisted of a waiver of premium payments in the event of the total-and-permanent disability of the insured. A waiver-of-premium provision operative only if the insured is actually disabled both *totally and permanently* is inexpensive because of the remoteness of the contingency insured against. Such a provision is generally admitted to be appropriate in a life-insurance contract. It is true that it introduces into the life policy the element of insurance against a contingency other than that of death, but only to the extent that the happening of that contingency directly affects the continuation of the life policy.

Practically all companies adopted the waiver-of-premium clause. The majority did not, however, confine themselves to a waiver-of-premium clause effective only in event of both total and permanent disablement but gradually developed and extended the disability coverage. The extension of coverage consisted in (1) enlargement of the amount of disability insurance by the introduction first of annual and later of monthly *income payments* in addition to waiver of the premium and (2) widening of the protection by the adoption of a definition of "total-and-permanent disability" which brought within the scope of the coverage many disabilities of a temporary character. These extensions added very considerably to the cost of the benefits,

requiring substantial additional premiums, and introduced a new element into the business which gave rise to many serious problems. The administration of this type of business is much more difficult and costly than the administration of a purely life-insurance business and has become an important part of the operation of many companies.

Development of Disability Benefits in the United States. In 1896 the Fidelity Mutual Life Insurance Company of Philadelphia issued a policy containing provision for waiver of premium or, alternatively, settlement by annuity, in event of total-and-permanent disability. In 1906 the Travelers Insurance Company of Hartford adopted the waiver-of-premium provision. It was not, however, until about 1910 that American companies generally began to adopt the waiver-of-premium clause. Policies containing such a provision were in use in certain countries in Europe more than 30 years earlier, and a similar form of insurance was sometimes found in American fraternal orders at about the same time.

The first extension of the disability clause consisted in the addition of a provision for immediate payment of the sum insured in equal annual instalments over a period of years, the unpaid balance of the policy becoming payable in event of subsequent death before all the instalments had been paid. Sometimes the policy gave the insured the *option* of having the premium waived during disability (the full sum insured being payable at death) or of having the policy made payable at once in equal instalments payable over a period of years, such settlement being unaffected by the insured's subsequent death before all the instalments had been paid. Comparatively little insurance was issued with this form of disability benefit, under which the "income payments" were payments on account of the face amount of the policy, which was thus reduced by each such payment.

The next important development was the provision for an income benefit *in addition to* waiver of premiums. The income was payable for life (or until recovery) or to the maturity date in the case of endowment policies. The income payments were not deductible from the sum payable at death. This additional income benefit was at first generally made payable annually.

It usually commenced not earlier than the end of the policy year in which disablement occurred. The amount of the annual income was generally 10 per cent of the face amount of the policy, *i.e.*, \$100 for each \$1,000 of insurance. A little later (about 1920) some companies began to issue policies which provided for a monthly disability income of 1 per cent of the face amount of the policy, with payments commencing at once, upon proof of total-and-permanent disability. This was, until 1932, the standard disability income benefit, *i.e.*, \$10 monthly income for each \$1,000 of life insurance, together with provision for waiver of premiums.

Ninety-day Clause. An important and far-reaching modification of the disability provision was introduced about 1921. This was the adoption by many companies of the *90-day clause*, which may fairly be said to have revolutionized the whole system of disability benefits. The 90-day clause originated in the frequent difficulty of determining whether an admittedly *total* disability was *permanent*. Usually there is little difficulty in determining whether disability is total. With regard to the permanency of disability there must frequently be doubt. Claims arise from many causes which do not necessarily result in permanent disability, and it may be impracticable for the company to refuse payment of benefits because of a mere possibility of recovery. The solution of this difficulty was a modification of the definition of "permanent" disability by providing that total disability would be *presumed* to be "permanent" *during its further continuance* when it had continued for a period of 3 months. Subsequent experience showed that 3 months was too short a period.

To establish a claim under the 90-day clause, it was only necessary to prove that disability was total and that it had continued for 90 days. This could be the case even where the disability was such that it was probably not permanent. It was not necessary that in all cases disability should have continued for 90 days before a claim could be made. If the disability could be shown to be, in fact, permanent (as, for example, in case of total blindness), a claim could be established at once.

A clause of this nature, providing for presumption of permanency after total disability has lasted for a specified time,

materially increases both the coverage and the cost as compared with a true "total-and-permanent" clause. It introduces, to some extent, insurance against *temporary* total disablement, thus radically altering the nature of the coverage.

Joint Investigation of Company Experience. Up to the time of the introduction of the 90-day clause (and for some years thereafter), the only basis available for the calculation of premium rates and reserves for disability benefits was Hunter's Disability Tables. These tables, comprising the rate of disability, or probability of becoming totally and permanently disabled, and the rate of mortality among disabled lives, were based largely on the experience of fraternal orders. The fraternal orders operated under conditions somewhat different from those facing life insurance companies; but, to the extent that the benefits depended on the contingency of total-and-permanent disability, conditions were sufficiently comparable to give a fairly accurate basis for calculation, pending the accumulation of the companies' own experience. It was to be expected that, since the companies operated on a purely commercial basis, their experience would be less favorable than that of the fraternal orders, and it was therefore desirable to obtain information as to the company experience as soon as possible.

The introduction of the 90-day clause complicated the situation. No satisfactory basis existed for determining appropriate premium rates for this type of benefit and the rates were, in fact, pretty generally underestimated.

In 1926, the Actuarial Society of America published a report on the disability experience of 29 American and Canadian companies. This report, while important, was not of great practical value because of the very limited amount of experience available under current forms of coverage, especially in regard to the rates of death and recovery among those disabled. This was particularly true in regard to the 90-day clause, which had been in operation for only a little over 2 years and under which, therefore, the experience was very meager. The experience under true total-and-permanent coverage was, however, of value to the companies which had retained that form.

The tables given in the report were based on the experience

under policies providing a monthly income in event of disability. The experience was divided into three classes, *viz.*:

Class 1. Policies without a 90-day clause.

Class 2. Policies with a 90-day clause in companies having a strict practice in regard to admission of claims.

Class 3. Policies with a 90-day clause in companies having a liberal practice in regard to admission of claims.

In Class 2, the results were inconsistent, owing to the inadequacy of the data available. The tables based on the Class 3 data became the standard for premium rates and reserves for disability benefits with a 90-day qualifying period and, with suitable adjustments, for other (longer) qualifying periods adopted later.

The cost of disability benefits depends not only on the rate of becoming disabled but also on the claim value, *i.e.*, the reserve required to provide the payments under a disability claim. The amount of this reserve depends on the rates of death and recovery among disabled lives. The joint experience showed a higher rate of disability than by Hunter's Table—much higher, of course, for policies with a 90-day clause—but a lower *claim value* because of higher rates of termination through either death or recovery in the early years following disability.

The following table shows the comparative disability rates:

RATE OF DISABILITY PER 10,000

(Number out of 10,000 at age stated becoming totally and "permanently" disabled in a year)

Age	Hunter's Table (no 90-day clause)	Class 1 (no 90-day clause)	Class 3 (90-day clause)
20	5	17	44
30	6	17	41
40	8	20	47
50	17	29	76

The table indicates: (1) the very high disability rate in the companies as compared with Hunter's Table; (2) the greatly increased disability rate under the 90-day clause; (3) the relatively high disability rate at low ages.

The relative claim value (at time of disability) is shown below:

VALUE (AT 3 PER CENT) OF CLAIM OF \$10 MONTHLY

Age	Hunter's Table (no 90-day clause)	Class 1 (no 90-day clause)	Class 3 (90-day clause)
20	\$623	\$433	\$246
30	955	656	356
40	966	671	431
50	876	642	449

This table shows that, under Class 1, while more claims occurred (were admitted) than indicated by Hunter's Table, a greater number of deaths and recoveries reduced the average cost of a claim. It shows that with a 90-day clause (Class 3), the claims are of an entirely different character, being much more numerous but of a much shorter average duration.

The combined effect of both factors when brought together in the premium rate is shown below:

NET ANNUAL PREMIUMS (3 PER CENT) FOR MONTHLY INCOME OF \$10
DISABILITY COVERAGE TO AGE SIXTY

Age	Hunter's Table	Class 1	Class 3
20	\$.80	\$1.30	\$1.99
30	1.07	1.54	2.51
40	1.48	1.85	3.30
50	2.20	2.36	4.48

Subsequent experience has indicated the necessity of still higher *net* premiums, while the high expense of this class of business requires, in addition, very substantial loadings.

The publication of the companies' experience drew attention to two things: (1) the necessity for generally higher premium rates than those in use and (2) the desirability of a greater degree of uniformity in the conditions under which benefits were to become payable. The many changes and the wide variety of contracts and practices had rendered it impossible, even after the transaction of disability insurance for about 14 years, to produce standard tables which would be of practical value.

Standard Provisions. In 1928 committees were appointed, first by the Superintendent of Insurance of the state of New York and later by the National Convention of Insurance Commissioners (which had adopted a resolution favoring uniform disability clauses), to consider recommendations for standard provisions for total-and-permanent disability benefits. The two committees acting in cooperation agreed on certain recommendations, which were later adopted by ruling or otherwise in a number of states (including New York) and which became the general basis for the contracts of the majority of the companies.

Although a few years later disability coverage underwent some radical modifications, a somewhat detailed consideration of these "standard" provisions will be valuable in providing a general description of the scope and character of the disability benefits. A large amount of insurance containing these provisions is outstanding. The standard provisions consist of certain provisions which are *required*, others which are *permitted*, and others which are *prohibited*. It will be noted that considerable variation is permitted in certain respects, so that these provisions cannot properly be described as "standard."

Definition of Disability. No benefits may be allowed unless for disability which is *total and permanent*. The definition of total disability is "incapacity (resulting from bodily injury or disease) to engage in any occupation for remuneration or profit." Total disability which has been continuous for a period specified in the policy (not less than 4 months or more than 1 year) is to

be *presumed permanent*. Thus, in the most fundamental respect, the scope of the coverage, uniformity was not required. A company could adopt any period from 4 to 12 months for establishing presumption of permanency. As a matter of fact, practically all companies adopted the minimum period of 4 months, which was the standard *waiting period* until 1932, when there was a general change to a waiting period of 6 months.

The definition of *total* disability, "inability to engage in *any* occupation for remuneration or profit," is a strict one. Taken literally it would exclude all but a few extreme forms of disablement. Obviously, such a definition cannot, in practice, be interpreted literally, and it is not intended that it should be. A less rigorous definition, however, would greatly increase the danger of an excessive claim rate. In wording the provision in this strict way the committees also intended to eliminate the "professional man's policy," under which total disability was defined as inability to follow the *customary* occupation. This type of contract had been adopted by some companies and was particularly likely to create administrative difficulties.

Specified Disabilities. The clause *may* provide that certain forms of disablement shall be deemed to be *total* disability. These are the entire and irrecoverable loss of the sight of both eyes or the severance (or entire loss of use) of both hands or both feet or of one hand and one foot. These disabilities are generally called the "specified disabilities." Prior to the adoption of the standard provisions it was usual for the policy to provide that any of these specified disabilities would be regarded as constituting both total and permanent disablement. Thus, payment of benefits would begin at once, whereas, under the standard clause, existence of a "specified disability" implies only *total* disability and the waiting period of at least 4 months must elapse before such disability is also presumed to be permanent. On the other hand, many of the old clauses required the "loss of" rather than the "loss of the use of" the members referred to. For example, a case of total paralysis of an arm and a leg would be an indisputable claim under the standard clause (when it had lasted at least 4 months) but not necessarily so under some of the

old clauses. The majority of claims arising as specified disabilities would doubtless be admissible under any clause.

Limiting Age. Disability must not have commenced after the insured has attained age sixty (as defined in the policy, *viz.*, actual age or "insurance age" on the policy anniversary nearest the sixtieth birthday). The only exceptions allowed to this rule are in the case of endowment policies maturing at ages from sixty-one to sixty-five and deferred annuities commencing at these ages. In these cases the disability income must cease at the maturity age (instead of continuing for life) if disability began after age sixty. Usually the disability income under endowment policies is payable for life (in event of disablement before age sixty), but for special forms of deferred annuities an income ceasing when the regular annuity commences is more appropriate and more usual.

It is fundamental in disability insurance that coverage should be limited and the period of old age excluded. Otherwise the cost would be prohibitive. The annual rate of disability increases very rapidly after about age sixty, while above age sixty-five it is often difficult to distinguish between disability and the normal infirmities of old age.

Prior to 1932 the limiting age in nearly all companies was sixty, but a few companies granted disability benefits up to sixty-five. With the adoption of the standard provisions sixty became the limit in practically all companies except for the few classes of policies and annuities referred to above. In 1932 there was a general change in the limiting age from sixty to fifty-five, except where the contract provided only for waiver of premium.

Where disability occurs before attainment of the limiting age, premiums falling due after that age and during continued disablement are waived, and income payments, if any, continue for life, and not only up to the stated limiting age. Originally, it was usual to provide in the case of endowment policies that the disability income ceased at the maturity date of the policy, but later such policies generally provided for a *life* income in event of disability, the general practice up to 1932. The cost of a life

income is, naturally, much greater, particularly in the case of endowments maturing at the lower ages. The extent of the difference may be seen from the following table:

NET ANNUAL PREMIUM. DISABILITY INCOME OF \$10 MONTHLY. CLASS
(3)—3 PER CENT. COVERAGE TO SIXTY

Age at issue	15-year endowment		30-year endowment	
	Income to maturity date	Income for life	Income to maturity date	Income for life
25	\$0.80	\$1.46	\$1.34	\$1.93
35	1.09	2.15	2.26	2.73
45	1.98	3.64	3.46	3.64

Notice of Disability and Proof of Continuance. The policy must provide that written notice of a claim shall be given *during* disability, i.e., not after the death or recovery of the insured. This is a very desirable provision for the protection of the company since evidence of the degree of disability may be difficult to obtain after it has ceased by death or recovery. It is also very desirable from the company's point of view that claims be made promptly and that there should not be an indeterminate liability for disabilities no longer existing. The standard provisions require that the policy provide that failure to give notice during disability shall not invalidate a claim if it can be shown not to have been reasonably possible to give it and if notice is given as soon as reasonably possible. In event of a dispute on these points the company would, as a rule, have but a small chance of being able to protect itself against an improper claim where notice was withheld and where the insured claimed that it was not "reasonably possible" for him to give it.

The standard provisions do not specify any particular requirements for proving the existence or continuance of disability.

They specifically permit "any other provision not inconsistent with these requirements which may be necessary to the efficient administration of the coverage provided and the protection of the interests of the insurer or the insured," and the committees stated that this would include a provision requiring proof of disability in any specified manner and proof of continuance, including medical examination of the insured, at reasonable intervals.

Proof of continuance is just as necessary as proof of original disablement. Formerly, when the contingency insured against was true total-and-permanent disability, there was less need for proof of continuance although even under those conditions it could not be dispensed with. It was, in fact, at first usual to require that proof of continuance be furnished every time a premium was waived or an income payment made. Later this practice was modified by providing that proof would not be required oftener than once a year after the first year. With the introduction of monthly income payments and the 90-day clause, and the consequent inclusion in the coverage of purely temporary disabilities, a more frequent review of disability claims became essential.

The review of claims is an important part of the administrative work in connection with disability benefits. Claimants do not always announce their recovery, and unless the company is vigilant it will pay out far more in claims than it is liable for. On the other hand, it is undesirable and, in many cases, unnecessary to make frequent and expensive inspections and examinations.

If recovery takes place, payment of the benefits ceases, and the insured must resume payment of premiums. Under the old "total-and-permanent" provisions, such a recovery would show that the disability had not, in fact, been permanent, but no refund of benefits paid or premiums waived is required in such cases. Under the 90-day clause (or similar clauses with other waiting periods), recovery is a normal incident, since the word "permanent" has a purely technical significance.

Even under a true total-and-permanent provision, the rate of recovery from disability is substantial. Under the modern type

of clause, recoveries are much more numerous, since, out of all claims, probably at least 80 per cent are in respect of temporary and not permanent disabilities. Many claims continue only long enough to qualify for payment, while the recovery rate continues to be very high until disability has existed for over a year.

Amount of Benefits. It has already been explained that, at the time the standard provisions were proposed, the customary benefits in event of disability were either (1) waiver of premiums falling due during disability or (2) waiver of premiums and a monthly income for life of \$10 for each \$1,000 of insurance. Variations existed, however, in certain details. In some cases the premium waived was the *net* premium and not the *gross* premium. In either case the insured was, of course, relieved of payment; but, where only the net premium was waived, the dividends during disability were smaller, since any portion of the dividend derived from loading was excluded. The standard provisions make it necessary to waive the gross premium by requiring that "any dividends which would otherwise have become payable during disability shall be allowed as though disability had not occurred."

A few companies had adopted a special provision for "increasing disability benefits," under which the monthly income per \$1,000 of insurance was increased from \$10 to \$15 after 5 years' continuous disability and from \$15 to \$20 after 10 years' continuous disability, remaining at the latter sum thereafter. Such an arrangement is unsound. Experience shows the desirability (from the company's point of view) of decreasing rather than increasing the benefit in cases of prolonged disablement. Generally speaking, the rate of claim will increase if the benefit is increased, because of the greater inducement to claim. Similarly, the recovery rate will definitely be reduced if it is to the insured's financial advantage to remain disabled. Under the standard provisions disability income payments exceeding \$10 monthly per \$1,000 of face amount are forbidden.

The most important regulations introduced by the standard provisions relating to the benefits payable are (1) that no income payments may be made for any part of the first 3 months of

total disability, (2) that no income payments may be allowed retroactively for a period of more than 1 year prior to notice of claim, and (3) that, in event of delay in giving notice, retroactive waiver of premium *must* be granted up to at least 6 months prior to receipt of notice.

In all these respects competition had resulted in great variations in practice. Some companies had adopted provisions of extreme liberality, providing for the payment of retroactive benefits without any limit of time and for payment of income benefits in respect of the whole of the waiting period. Other companies put limits on the "dating back" of benefits and paid only from the end of the waiting period. Such differences often gave rise to trouble when a policyholder was insured in more than one company. Extreme liberality in respect to the conditions of payment was in itself an incentive to claim, which had a distinct bearing on the rate of disability experienced and which rendered the experience of one company quite different from that of another. Accordingly, it is desirable not only that the conditions of payment be approximately uniform in all companies but that these conditions shall not be so unduly liberal as to invite claims.

While, theoretically, it would be reasonable to provide that, when permanency is established by continuance of total disability for the specified waiting period, payments shall be made retroactive for the whole period of disability, for practical reasons such a provision is not desirable. The cost would be greatly increased because in many cases recovery would be delayed until after the end of the waiting period in order to qualify for benefits. Under the standard provision there is less inducement to prolong a disability that really terminated within the waiting period, since all that could be obtained by doing so would be a single month's income payment.

Where notice of the claim is delayed, retroactive payment of income benefits is *allowed* under the standard provisions up to 1 year from date of notice, while waiver of premium due not more than 6 months prior to notice (and during disability) *must* be granted. Most companies provide that benefits—both income payments and premium waiver—shall be retroactive up to 1 year

prior to notice. While uniformity has been in fact attained on this point, the standard provisions do not require it.

The limitation of 1 year on dating back the payment of benefits is another instance of conflict between what is logical and what is practical. It may appear that, since the policyholder has insured himself against the happening of a specified contingency and has paid the premium agreed upon, he should not be deprived of the benefits merely because of delay in notifying the company. This view, however, would leave the company in the position of having a large and indefinite liability for disability benefits due in past years of which it had not, as yet, received notice. The fact that the insured might have since recovered would, under this view, be no reason for nonpayment of benefits which would have been paid if the claim had been received and approved. Thus it might be claimed that a policy which had lapsed several years before was still in force because the insured was disabled at the time of lapse; and while the onus of proof of such disablement would be on the claimant, it might be difficult for the company successfully to contest an improper claim. Again, under an endowment policy, a retroactive claim might be made years after the policy had matured, so that maturity of the policy would still leave the company with a contingent liability for which some provision would have to be made. Such a situation is clearly a very unsatisfactory if not an impossible one for the company. The only practical solution is to put a definite limit on possible retroactive payments.

Where the policy has lapsed for nonpayment of a premium and where proof is furnished that disability commenced not later than the end of the days of grace (and still continues), disability benefits must be allowed as if the policy had not lapsed, provided notice is received within a specified period from the date of lapse. This period must be at least 6 months and is generally a year. In the case where disability began after the due date of the unpaid premium but within the days of grace, the insured must pay that premium; *i.e.*, it is not waived since it did not fall due *during* the disability.

Exclusion of Certain Risks. Permission is given in the standard provisions to exclude from the coverage "certain risks or hazards" as may be specified in the policy. Thus, the company's clear right to limit the scope of coverage which it is willing to undertake, a right which had to be settled by litigation in regard to the life-insurance coverage (and which, in fact, is not yet recognized for such coverage in some states), is established. The risks generally excluded are (1) disability arising from self-inflicted injury, (2) disability caused by military or naval service in time of war, and sometimes (3) disability caused by a violation of the law. A claim arising because of self-inflicted injury would be fraudulent or, at any rate, a breach of that good faith which is the necessary foundation of all insurance contracts. Disabilities resulting from violation of the law would probably, in any case, be excluded on grounds of public policy.

The risks of disability that may occur as a result of service in the armed forces in time of war are too great to be assumed even in time of peace. It is usual in time of peace to assume the *life-insurance* risk involved in a possible participation in a future war, since the effect on the total mortality rate of the company would not, in all probability, be very great and can properly be borne by the whole body of policyholders. In the case of disability benefits the additional cost in event of war, if the extra risk were not excluded, might be extremely serious. Such risks are excluded either by a specific provision that disabilities arising from service in the armed forces in time of war are not covered or by a provision that, in event of such service, the disability provision is automatically terminated or suspended, with, of course, an adjustment of the premiums payable.

Termination of disability coverage during war service is more conservative than suspension since many who survive war service may be suffering from injuries or illnesses contracted during service, and the claim rate may thus be materially increased. Where the benefit provision has been terminated, reinstatement will usually require evidence of insurability so that the company is protected from any excess of claims arising in that way. On the other hand, liberal treatment is desirable, and the company

may feel that it is sufficiently protected by a suspension of the benefit provision. In that case the insured may reinstate the disability provision upon termination of service, and irrespective of his then state of health, merely by resuming payment of the additional premium.

The risk of disability as a result of participation in aeronautics is not a serious one. Most casualties from that cause result in death rather than disability. Where there appears to be a special hazard as to disability, the company would not as a rule issue a policy including disability benefits, except with a suitable extra premium.

Disability Income Benefits as Indemnity for Loss of Earning Power. Most forms of insurance other than life insurance are properly regarded as contracts of indemnity, *i.e.*, the insurance is for the purpose of *making good a loss*, and in general no greater amount can be recovered than the amount of the loss, irrespective of the amount of the policy. Life insurance is different, because not only is it impossible to put a limit to the financial value of a human life, but, since a claim can arise only by death, there is no temptation (under normal circumstances) for the insured to cause a claim under the policy.

A contract providing for disability benefits should be underwritten as a contract of indemnity. Its object is to replace, in part at least, the loss of earning power caused by the disablement of the insured. In fact, if a high claim rate is to be avoided, the amount of disability income must be substantially less than the insured's normal earned income. Hence, the company must consider the applicant's earning power as a prime element in the selection of the risk. Because of the impossibility of controlling the total amount of insurance with disability income benefits taken by an individual in different companies, the view is held in some quarters that both (1) the definition of total-and-permanent disability and (2) the benefits payable should be consistent with the idea of indemnity.

The definition of disability in the standard provisions is unsatisfactory. "Incapacity to engage in any occupation for remuneration or profit" covers too much ground. It represents

neither the wishes of the applicant in regard to coverage nor the intentions of the company in regard to its admission of liability. A more logical basis would be to define disability in terms of reduction in earning capacity and to limit the amount of disability income to a stated percentage of current or recent earnings.

There are, however, serious practical difficulties in such a plan in both these respects. Thus, the limitation of benefit should be related to the earned income immediately prior to claim, which may be quite different from the earned income at the date of the policy. Where income has been reduced, the benefit payable might otherwise exceed the current income. This means that the effective coverage under such a plan would not be fixed but would fluctuate as earnings changed so that premium adjustments would be required. There is also the fact that "income" is not always in cash, and in such cases it may not be practicable to define disablement or to fix the amounts of benefits in relation to earned income.

Overinsurance is, perhaps, the greatest danger to the companies in connection with the issue of disability benefits. Practical considerations aside, it would be ideal if coverage were so limited that it would be impossible for a claimant to collect, whether from one company or a number of companies, a greater amount in disability benefits than, say, two-thirds of the total amount of his earned income prior to disability.

In preparing the standard provisions, the committees recognized the desirability of permitting a company to make such limitations on the amount of benefits collectible. In allowing "any provision not inconsistent with these requirements . . .," it was specifically stated to be the intention to permit a provision "that a proportionate reduction of income payments accompanied by return of premiums paid on the amount of such reduction may be made in case the aggregate monthly amount payable to the insured on account of disability (all companies) exceeds the percentage specified in the provision (not to exceed 100 per cent) of monthly earned income at date of disability or alternatively at date of application."

Such a provision is called a "prorate" clause. It corresponds to the "other insurance" clauses in fire or burglary insurance and is

for the same purpose: to prevent the insured from collecting more than the value of the "property" (in this case "earning power") lost or destroyed.

The only arguments against the use of such a provision are based on the practical difficulties of administering it. Moreover, the full benefit of such a basis can be obtained only if *all* companies adopt the same type of coverage.

A method of handling this problem is shown in the clause which has been adopted by one company (the only one, so far, to adopt the prorated principle) and which is as follows:

If, at the time of the approval of proofs as herein provided, the monthly income benefit to which the Insured shall be entitled hereunder, and under other Supplementary Disability Policies issued to him by the Company, together with the income benefits, if any, to which he shall be entitled, by reason of disease or accident, under insurance in any other company or association of whatever kind, shall exceed in the aggregate seventy-five per centum of his former earned income, ascertained as herein provided, the monthly income provided for herein shall be reduced so that the total monthly income under this and such other insurance, if any, shall not exceed seventy-five per centum of such former earned income. In event of such reduction future premiums hereon will be equitably reduced, and the Company will pay an equitable part of the Cash Surrender Value hereof, computed as of a date immediately preceding disability. The monthly income benefit provided for herein will not be restored to its original amount unless there shall be an election at the time of such reduction to have the premiums remain at their original amount, and to leave with the Company the portion of the Cash Surrender Value referred to above, in which case the monthly income benefit provided for herein will be so restored, subject to all the provisions hereof, upon the Insured's recovery from his then disability.

Where only one of the companies carrying a risk has a prorated clause, the whole of any reduction in amount payable would be under that company's policy. In fact, it might happen that its liability would be entirely extinguished. Unless provision is made for refund of premiums (the above clause provides only for refund of reserve), it would seem that difficult questions would be likely to arise in event of any such reduction or cancellation of liability.

The whole subject of prorating in connection with the disability clause is full of practical difficulties. For example, it might be necessary to take into account amounts payable under accident-and-health policies in which there is no provision for prorate and some of which call for temporary incomes (as for 26 or 52 weeks) instead of life incomes. One company could not settle the claim until all had agreed upon their action, while a company might not know of the existence of other insurance until after it had taken action. Misunderstandings on the part of the policyholder would be apt to occur unless he were frequently reminded that he should not maintain in force a greater amount of income benefit than would be payable under the terms of the contract.

Notwithstanding the great financial advantage to the companies of prorating and the undoubted need for it from an underwriting standpoint, it has failed of general adoption. The action of the committees in failing to make such a provision a requirement has probably settled the question for some time to come.¹

Developments Subsequent to the Adoption of Standard Provisions. *Changes in Rates.* The adoption of standard provisions by some of the states was a result of the joint investigation into disability experience, which had been undertaken largely with a view to furnishing a suitable basis for the calculation of premium rates and reserves.

Those states which adopted the standard provisions required them to be put into effect by July 1, 1930. Consequently there was at that time a general revision of policy forms in order to comply with the new provisions. At the same time practically all companies took the opportunity not only of changing their rates in accordance with the changed provisions but of substantially increasing them. This was probably the first real rate increase that had taken place. The companies which had adopted the 90-day clause had substantially increased premiums over those necessary under the true total-and-permanent clause, but experience had shown, generally speaking, that the addi-

tional benefit was worth more than the premium charged for it, so that, in effect, premium rates had actually been reduced.

From about 1924, comparisons of company experience with the "expected" and the gradual increase of losses as shown in the Gain and Loss Exhibits had resulted in a realization that higher premiums were necessary for policies carrying the 90-day clause, and some companies had already made increases in premium rates before the joint experience became available. As a rule, however, increases in rates had been accompanied by increased liberality in the conditions under which benefits were payable. Competition and the belief that the situation could be cured by comparatively mild measures were responsible for these mistakes.

By the beginning of 1930 there was a more nearly complete realization of the situation. Most of the companies had experienced large operating losses in spite of a general tightening of the administration of selection and of admission and supervision of claims. The result was a real rate increase. Disability premium rates had now increased materially from the original premiums of a few cents for the waiver-of-premium benefit in event of true total-and-permanent disability and had reached amounts which were often a substantial proportion of the total premium payable.

Women. An important innovation which took place at this time was the general adoption of higher rates of premium for women than for men. Experience on women had been particularly bad, especially in certain classes and occupations, and for women generally the rate of disability had been from $1\frac{1}{2}$ to 3 times that among men. Nearly all companies announced in connection with the new 1930 contracts that rates for women (when accepted) would be either $1\frac{1}{2}$ times or twice the rates for men. This increase, added to the general increase in rates, meant that thereafter women had to pay from $2\frac{1}{2}$ to 3 times the rates they had formerly been charged for a more liberal type of contract. In addition, some companies adopted very drastic revisions of their selection rules in regard to women, restricting them to comparatively small amounts or in some cases granting only

the waiver-of-premium benefit, while the more unfavorable classes were either refused disability benefits on any terms or given a high extra rating.

At a later date, as we shall see, most companies discontinued issuing policies with disability income benefits to women and very few do so at the present time (1951). Waiver-of-premium benefits are, however, issued freely to women, although at generally higher premium rates than for men—usually double.

Losses. Losses reported by many companies during the period up to 1931 were substantial and increasing. In addition to inadequacy of premium rates, which was the fundamental reason for losses, there have been other factors which are inherent in the business and which, in the opinion of many, are such as to render it doubtful whether disability-income insurance can be conducted at all without loss.

The most important cause of loss is misstatements by the insured at the time of making claim or on review of claim. Some of this is deliberate fraud; at other times it may be merely a stretching of the truth. It would be too much to expect rigid honesty to the extent that the insured would decide a doubtful point contrary to his own financial interest. As in other relations with corporations, there is often a feeling that it is all right to "beat the insurance company" so that there is absolute necessity of close and expensive supervision. No amount of supervision, however, will eliminate entirely the element of fraud, which is inseparable from this class of coverage.

Apart from fraud there is a large class of cases where the insured honestly considers himself entitled to claim benefits but where there is more than a doubt of his right to them. There is often a very fine line between a disability which prevents the insured from doing any work and one which is really only partial disability. Often it may be merely a question of medical advice as to the desirability rather than the necessity of doing no work. The insured's physician may be influenced by the fact that an adverse opinion means a financial loss to his client.

Such doubtful claims, together with dishonest ones, lead to a great deal of expensive litigation. It may be fairly said that

no company contests a legitimate claim. In practically every contested case the company *knows* that it is not liable and that as a duty to the general body of policyholders it is bound to refuse payment unless there is no reasonable prospect of success in doing so. Unfortunately, the company encounters here another big element in the loss situation—the attitude of courts and juries.

Juries are traditionally hostile to corporations. Where the dispute is between a disabled policyholder and an insurance company, the company's case must be strong indeed to secure a favorable verdict. Such questions cannot, in fact, be fairly tried by jury. In some states the attitude of the lower courts themselves is little better, and frequently the court in its anxiety to find for the claimant reads into the insurance contract meanings that are not in it and that are opposed to its tenor. It is true that bad decisions—whether by jury or by the lower courts—can be, and often are, reversed by the higher courts; but appeals are expensive, and where there is any doubt of the result the company may deem it better to accept the judgment or, if possible, to make a compromise settlement. All the companies pay out in this way substantial sums for which no provision was made in the premium rates and which represent a loss to the general body of policyholders.

General Contract Revision of 1932. The general increase in disability premium rates and the other measures adopted in conjunction with the standard provisions early in 1930 had not had time to show their effect before some of the companies found themselves facing still greater losses, which seemed to call for still more severe measures. These increased losses were in large measure a result of the economic depression and were responsible for the most radical overhauling of the whole situation that had yet taken place.

Some expressed the opinion that the companies should frankly recognize that the disability income benefit could not be provided at a practicable cost because of the uncontrollable related elements causing loss. Others, representing the majority opinion, felt that the income benefit was too valuable a feature to the public to be given up entirely, that a demand existed for it which

the companies ought to supply, and that it could be safely offered subject to certain further modifications and restrictions. All, or practically all, were agreed that, subject to similar modifications, the provision for waiver of premium *without* an income benefit was not only desirable but could be written on a sound financial basis. It was true that little or no loss had been incurred under the waiver provision when written alone. This had been due to its much smaller financial importance and to the fact that there is much less inducement to present an improper or fraudulent claim.

It is perhaps unfortunate that there was not a more general agreement in 1931 as to the practical scope of disability benefits in life insurance. Natural differences of opinion, individual company experience, and possibly also competitive considerations prevented such a desirable result. With the exception of a very few companies which had not suffered any severe loss and which decided to continue disability benefits on the existing basis there was a general revision of contracts and rates effective at, or soon after, the beginning of 1932.

Out of 30 important companies 10 (including some of the largest in the country) decided to limit disability benefits in future contracts to the waiver-of-premium benefit only, with the substitution of a 6-month for a 4-month waiting period and at a substantially increased premium rate. The remaining companies, in general, decided to offer an income benefit modified as follows:

1. Coverage to cease at age fifty-five instead of sixty.
2. Monthly income, \$5 instead of \$10 per \$1,000 insurance.
3. Waiting period, 6 instead of 4 months.
4. Income, in case of endowment policies, to cease at maturity date.
5. Basis of rates changed, equivalent to a substantial increase in premiums.

The companies offering this form of income benefit also issue policies providing the waiver benefit with coverage to age sixty. In nearly all companies it was decided that income benefits would not be granted to women. At the same time some companies

which, since 1930, had been charging less than double rates for women raised the rate for the waiver benefit to double the rate for men.

The provisions of the disability coverage as now generally offered by those companies which have continued to offer the disability-income provision may be seen from the following specimen clause covering waiver and income. It should be remembered that coverage for waiver only is usually to age sixty.

TOTAL AND PERMANENT DISABILITY

This Agreement is issued as a part of and attached to Policy No. _____ on the life of _____, the Insured.

In Consideration of the payment in advance of an additional annual premium of \$ _____, which is included in and payable with the premium stated in said Policy and of the payment of a like sum with each premium after the first payable under said Policy, the company agrees to pay to the insured _____ Dollars each month and to waive payment of premiums under said Policy upon receipt of due proof that the Insured is totally and presumably permanently disabled before age 55, as hereinafter provided.

Upon receipt by the Company at its Home Office of due proof, as hereinafter provided, that the Insured has become totally disabled by bodily injury or disease so that he is and will be thereby wholly prevented from performing any work, following any occupation or engaging in any business for remuneration or profit, and that such disability has already continued uninterruptedly for a period of at least six months (such total disability of such duration being presumed to be permanent only for the purpose of determining liability hereunder), and provided that

- (1) such total disability began before default in payment of premium under said Policy (or, in event of default, not later than the last day of grace), and that
- (2) such total disability began before the anniversary of said Policy on which the Insured's age at nearest birthday is 55, and prior to the maturity of said Policy; and that
- (3) such total disability did not arise from bodily injury or disease occurring before the insurance under said Policy took effect, and known to the Insured, but not disclosed in the application for the insurance under said Policy, and that

- (4) such total disability has been continuous from the beginning of the period of disability claimed,

the Company will grant the following benefits:

(a) **Waiver of Premium.** The Company will waive the payment of each premium under said Policy falling due after the commencement of such total disability and during its continuance, provided, however, that no premium shall be waived which shall have fallen due more than one year prior to the date of receipt at the Home Office of the Company of written notice of claim, as hereinafter provided. The premium to be waived shall be the premium according to the mode of payment in effect when such total disability began. If such total disability began during the grace period and the Insured is in default, said Policy will be restored if the Insured pays to the Company the premium in default with interest thereon at six per cent per annum when the claim is approved. Any premium falling due after notice of claim is received and prior to approval of claim, shall be payable in accordance with the terms of said Policy, but will, if paid to the Company, be refunded upon approval of such claim.

(b) **Income Payments.** The Company will pay to the Insured the monthly income stated above for the sixth and each succeeding completed month of such total disability during its continuance, but, in the case of an endowment policy, not beyond the original endowment period. No such payment shall be made for any fractional part of a month of disability nor for any period more than six months prior to the date of receipt at the Home Office of the Company of written notice of claim. If, in the opinion of the Company, disability results from or is accompanied by mental incapacity, payments may, at the option of the Company, be made to the beneficiary in lieu of the Insured.

Independently of any other cause of disability, the total and irrecoverable loss of the sight of both eyes, or of the use of both hands or of both feet or of one hand and one foot, shall be considered total disability.

Written notice of claim hereunder must be received by the Company at its Home Office during the lifetime and during the continuance of total disability of the Insured. Failure to give such notice within such times, shall not invalidate any such claim if it shall be shown not to have been reasonably possible to give such notice within such times and that notice was given as soon as was reasonably possible.

Due proof of claim must be received at the Home Office of the Company before the expiration of one year after default in payment of

premium under said Policy and in any event, whether or not there be a default, not later than one year from the anniversary of said Policy on which the Insured's age at nearest birthday is 55 or one year after maturity of said Policy, whichever is the earlier date, otherwise the claim shall be invalid.

Before making any income payment or waiving any premium under said Policy, the Company may demand due proof of the continuance of total disability, but such proof will not be required oftener than once a year after such disability has continued for two full years. If such proof shall not be furnished, or if at any time the Insured shall become able to perform any work, follow any occupation, or engage in any business for remuneration or profit, no further income payments shall be made nor premiums waived and if any such payments are made or premiums waived they shall constitute an indebtedness against said Policy unless paid to the Company.

The sum payable in any settlement of said Policy shall not be reduced by income payments made nor by premiums waived under the above provisions. Dividends, loan, and surrender values shall be the same as if the waived premiums had been duly paid. Any disability benefit due but unpaid at the time of the Insured's death shall be payable to the person or persons entitled to the proceeds of said Policy.

Disability Benefits shall not apply if the disability of the Insured shall result from intentionally self-inflicted injury or from military or naval service in time of war; nor shall these benefits apply to the Temporary Insurance or to the Paid-up Insurance provided in said Policy under "Surrender Values," or to any Dividend Additions provided therein under "Participation in Surplus—Dividends."

Any premium due on or after the anniversary of said Policy on which the age of the Insured at nearest birthday is 55 will be reduced by the amount of premium charged for Disability Benefits. If for any reason, said reduction shall not be made and said amount shall be paid to and received by the Company as a part of any premium under said Policy, the amount overpaid, with six per cent interest thereon, will be refunded and the Company shall not incur any other or further obligation or liability.

Upon written request of the Insured on any anniversary of said Policy and upon return of said Policy and this Agreement for proper indorsement, the Company will terminate this Agreement and thereafter the premium shall be reduced by the amount charged therefor.

This Agreement shall automatically terminate if any premium on said Policy shall not be duly paid or if said Policy shall be surrendered.

The Benefits and Provisions contained in the Sections "Miscellaneous Benefits" and "Other Provisions" of said Policy shall also apply to this Agreement, except as to the provision of said Policy with respect to "Incontestability" and except as to the above conditions under which said Disability Benefits shall not be effective.

About this time (1932) some of the Canadian companies adopted a different type of disability-income contract under which the income payable was both *temporary* and *decreasing*. For example, in some cases the income benefit per \$1,000 of face amount was \$10 monthly payable for 50 months, followed by \$5 monthly for 100 months, with payment of the face amount of the policy at the end of 150 months if the insured was still alive and disabled. This type of benefit, while having advantages from the company's point of view, did not provide adequate protection against the risk of total-and-permanent disability. Later, it was pretty generally abandoned in favor of a *uniform* (not decreasing) income payable for a limited period. •

Recent Developments. The period from 1932 up to the present time has been marked by a greatly improved experience under disability provisions. This has been due to favorable economic conditions, greater care in selection of risks and administration of claims, greater knowledge of the cost, and, very largely, to the more restricted types of contracts that have been issued in recent years.

The reduction or elimination of losses has led to some pressure from the field for greater liberality in the terms of the disability contract and particularly for the resumption of a \$10 monthly-income benefit per \$1,000 of insurance instead of the usual \$5 (in companies that issue policies with any income benefits). A \$5 monthly benefit is disproportionately small and requires a relatively large amount of insurance to provide a moderately adequate disability income, while the limitation of coverage to age fifty-five provides only partial protection.

As yet, however, there is very little indication of any general resumption of the former more liberal scale of monthly-income

benefits or of extension of coverage beyond age fifty-five, although a few companies have made such liberalizations in the terms of the policies being issued at present. Many of the principal companies still do not offer income benefits at all. The form of contract which seems most likely to be developed is that under which payment of the disability income is limited to age sixty or sixty-five with payment of the policy when the disability income ceases. If the monthly income were \$10 per \$1,000 and if coverage continued to age sixty, this would be a fairly satisfactory type of benefit from the policyholder's point of view and, in view of greater knowledge and experience, could probably be administered by the companies without danger of serious loss. An important element in the whole situation is the desirability of demonstrating that this important social need can be met by private enterprise.

A fairly recent development of some importance has been the apparent establishment by numerous legal decisions of the fact that the disability provision is a *part* of the life-insurance policy in which it is included or to which it is attached, and is not a *separate* contract. The effect of these decisions is that disability losses or gains may be taken into account in determining the dividends payable on policies with disability benefits. In other words a lower or a higher dividend may be paid on such a policy than on an otherwise identical policy not containing a provision for disability benefits. Many companies, following the large losses of the 1930's, adopted the practice of making such a distinction in regard to dividends.

Administration of Disability Benefits. The financial results of the administration of disability benefits will be affected largely by (1) the care taken in the initial selection of risks, (2) the company's attitude in the admission of claims, and (3) the steps taken to maintain an adequate supervision and review of admitted claims.

Selection of Risks. In considering the eligibility of an applicant for disability benefits, the degree of importance to be attached to the various elements in the risk will not be the same as for life insurance. In some occupations, life insurance could be

granted at standard rates while disability benefits would usually be either refused or granted only at an extra premium. Farm laborers or probably even farmers generally are an example of this class of risk. In these classes the rate of mortality is low, but the risk of disability from accident is high. Again, the physical condition of the applicant may necessitate a rating up or refusal of disability benefits while life insurance can be granted at normal rates. An applicant with severe myopia is a hazardous risk for disability insurance on account of the danger that he may develop total blindness.

The applicant's personal history, either of habits or of disease, has an important bearing on selection. An applicant who had taken a cure for alcohol or drug habit would probably be ineligible for disability benefits but might be eligible for life insurance on suitable terms.

The family history is perhaps of even greater importance in the selection of risks for disability insurance than for life insurance. Any case of apoplexy, insanity, paralysis, or tuberculosis, for example, must be very carefully considered in relation to the applicant's personal history and also in relation to his age, physique, and occupation.

With respect to disability benefits, selection as to finances takes on a totally different aspect and importance from that which it occupies in selection for life insurance. The disability provision is, or should be, an indemnity against loss of earning power, and the only income to be considered is that derived from the applicant's own efforts. Attempts have been made to set standards for selection in relation to finances, some companies refusing to insure beyond one-half of the earned income, others insuring as high as three-quarters. In all financial selection, for both life insurance and disability benefits, the amount carried in all companies must, of course, be considered.

Disability benefits are now commonly granted on suitable terms to many classes of substandard risks and also to a small extent in connection with nonmedical insurance.

Admission of Claims. The attitude of the company in regard to the admission of claims, *i.e.*, whether it is liberal or otherwise

in interpreting the terms of the policy, can make a considerable difference in the financial results of the business.

Practice in dating back benefits where the insured does not present his claim for a considerable period after becoming disabled will also affect financial results. The liability for dated-back benefits is, strictly, a matter of contract, but there is room for difference of practice in regard to the amount of the benefits to be allowed under various circumstances. Knowledge of the insured's disability may not be received by the company until after his death, when it may appear from the facts furnished in the proofs of death that a claim for disability benefits might have been made. Many companies in these circumstances voluntarily pay the benefits which might have been claimed and refund any premiums which would have been waived, but there are differences in practice in regard to the length of time for which such back payments will be allowed.

Review of Claims. The third factor in the cost of disability benefits is the care taken to follow up admitted claims in order to determine whether total disability still exists. Many recoveries are not notified to the company by the insured, and it is necessary to inspect claims periodically so that recovery may be promptly noted and benefit payments terminated. If this is not done, the cost of benefits will be greatly increased.

It is evident that companies operating in only a few states are at a disadvantage in this respect as compared with those operating throughout the country. The latter companies have their own offices and employees and their own medical and inspection staff available in every state or most states and can therefore easily secure information regarding the condition of a disabled policyholder, while the smaller companies must often rely on information from strangers.

DOUBLE INDEMNITY

A provision in a life-insurance policy, usually in the form of a rider or supplementary agreement, under the terms of which double the face amount of insurance is payable if the death of the insured is caused by accidental means, is known as *double indemnity*. Although there seems to be little, if any, real need or

reason for such a provision and although it could lead to increased litigation and expense, it has become an established and popular feature of the modern life policy and is included in a substantial proportion of all policies issued.

Travel Clause. Originally two forms of double indemnity were offered. The first of these was the "travel" or "passenger" clause, under which the additional insurance was payable only in case the insured was killed as the result of an accident occurring while he was traveling as a passenger in a train, bus, or other common carrier. This very restricted form of double-indemnity benefit is now obsolete in so far as new insurance is concerned.

General Double Indemnity. The usual form of double-indemnity provision provides for payment of the additional benefit in event of death by accidental means from any cause other than those specifically excluded. While death from accidental means may seem a well-defined contingency, experience has shown that, if liability under the clause is to be avoided for certain types of claims not intended to be covered, the terms of the contract must be very explicitly stated. In fact, in view of the many extraordinary decisions which have been rendered against the companies in double-indemnity suits, it seems to be a question whether it is possible to word the contract in such a manner as effectively to limit coverage to what is intended.

A typical definition of accidental death for the purposes of double indemnity is as follows: "Death resulting from bodily injury effected solely through external, violent, and accidental means independently and exclusively of all other causes and within ninety days after such injury."

The expression "accidental means" is important. Its effect is to eliminate liability where the *result* of what happened could be considered as accidental but where the *cause* of that result was not accidental. For example, if death occurs while the insured is being operated on under an anesthetic the result may be accidental but the *means* are not accidental. The intention, in using such a definition, is not to avoid liability for legitimate claims but to *limit the coverage* to deaths which are purely and entirely accidental.

The provision that death must be caused *solely* by "external,

violent, and accidental means" is also important and is intended chiefly to eliminate "accidental" deaths where disease was the real or a contributing cause. Examples are where the insured suffers a heart attack while going upstairs or while driving his car. In such cases the result is apparently accidental but the real cause of death was disease.

Exclusions. Experience with the double-indemnity provision has shown the necessity for excluding certain causes of death even where (in some cases) both the means and the result were accidental. These exclusions are of three kinds: (1) deaths resulting from violations of the law of various kinds and which are excluded on grounds of public policy; (2) deaths where an accident was involved but where accident was not the sole cause, such as those resulting from illness or disease or from bodily or mental infirmity; and (3) deaths from certain specified causes where there may be considerable doubt as to the accidental character of the death. Examples of this latter type of exclusion are where death results from the taking of poison or the inhaling of gas. A large number of such deaths are suicides, but frequently it would be difficult or impossible to prove that death was not accidental, particularly in view of the legal presumption against suicide. The necessity of rather numerous exclusions in the double-indemnity provision indicates the many practical difficulties inherent in this form of coverage.

Most companies exclude all deaths resulting from war, whether while serving in the armed forces or not. The policy also usually provides that, in event of service in the armed forces in time of war, the double-indemnity provision shall be either terminated or suspended during such service. Accidental deaths due to aviation, except where the insured was traveling as a passenger on one of the regular air lines, are also generally excluded.

Time and Age Limits. Death must occur (1) within (usually) 90 days of the accident and (2) before the insured reaches a specified age, now usually sixty or sixty-five.

The first of these requirements is reasonable on practical grounds since, if a long period elapses between an accident and death, there may be a real question as to whether the accident was or was not the sole cause of death.

Originally, double-indemnity coverage extended for the whole of life, or until the termination of the policy if sooner. Later the period of coverage was limited by many companies to age seventy and then generally to sixty-five or sixty. As will be shown later, the accidental-death rate increases rapidly in later life, a fact which at first was not fully realized. The cost of coverage for life (annual premium) is therefore substantially greater than where coverage ceases at sixty or sixty-five.

Premiums and Reserves. When the double-indemnity provision was first introduced most companies charged a *flat* premium rate, irrespective of age, of either \$1 or \$1.25 per \$1,000, even where coverage extended for the whole of life. The rate of accidental death, however, increases with age, at least after about age thirty, so that premium rates should, in general, not only increase with age in the same way as life-insurance premiums but should be greater where coverage is for life or to, say, age seventy rather than to a lower age.

The rates of accidental death according to the experience of a group of the principal companies are shown in the "Inter-Company Accidental Death Table" which is the standard table now in use for the calculation of premiums and reserves for double-indemnity benefits. The death rates at quinquennial ages on that basis are shown in the following table:

ACCIDENTAL-DEATH RATE

(Number of accidental deaths in a year per 1,000 insured at age stated)

Age	Deaths per 1,000	Age	Deaths per 1,000
15	0.88	45	0.68
20	0.75	50	0.87
25	0.56	55	1.12
30	0.44	60	1.38
35	0.50	65	1.72
40	0.60	70	2.05

It will be seen: (1) that the accidental-death rate *decreases* up to about age thirty; (2) that the rate is less than 1 per thousand up to about age fifty; and (3) that after about age fifty the rate increases rapidly, reaching 2 per thousand at about age seventy.

The effect on premium rates of different periods of coverage is shown in the following table:

NET PREMIUMS PER \$1,000, DOUBLE INDEMNITY. INTER-COMPANY TABLE,
3 PER CENT

Age at issue	Coverage limited to age			
	60	65	70	Life
25	\$0.61	\$0.65	\$0.69	\$0.79
35	0.72	0.79	0.85	0.99
45	0.91	1.00	1.08	1.31
55	1.16	1.29	1.41	1.78

This table shows that a gross premium (including loading for expenses) of \$1 per \$1,000 is not sufficient for life coverage except at very low ages nor for coverage limited to as low as age sixty at ages above about forty.

In the past, reserves for the double-indemnity benefit were very generally held on a "1-year-term" basis, the reserve simply being the premium for the unexpired portion of the policy year at the rate of \$1 per \$1,000 of insurance, with appropriate modifications for limited-payment policies. Because of the increasing accidental-death rate, reserves should be accumulated on the same principles as for level-premium life insurance. Where the coverage is limited to age sixty or sixty-five, the *aggregate* reserves on the \$1 (term) basis might for some years equal or exceed the aggregate true reserves (particularly if the majority of business in force was at the lower attained ages), but eventually such reserves would be insufficient. Where coverage extends to a higher age or for life, they would be insufficient almost from the start.

CHAPTER XV

GROUP INSURANCE

Group insurance is the most important development of life insurance in recent years. Under the group plan a large number of persons are insured by a blanket policy, without medical examination, and at a low cost, generally on the 1-year-renewable-term plan.

Group insurance originated in the early years of the present century and has had a rapid growth since that time. On Dec. 31, 1949, the amount of group insurance in force was approximately 44.5 billion dollars. Nearly 23 million persons were then insured under group policies.

The principles underlying group insurance are the same as those underlying ordinary-life insurance, the *group*, however, being the unit of selection instead of the individual life. The insurance company sets up various underwriting standards for selecting the groups it will insure and for determining the schedule of insurance it will offer and the basis of the premiums. Provided that each group, *as such*, is carefully selected and that at least 75 per cent of the eligible employees in each group elect and participate in the insurance, the company may expect an average mortality experience by insuring a sufficient number of groups. Normally each group is initially underwritten on a basis which appears to be self-supporting; but it is not necessarily anticipated that in operation every group will pay its own way, only that there will be an average experience for the groups as a whole. Ordinarily no medical examination is required; but although most groups thus include a proportion of substandard and uninsurable lives, experience has shown the rate of mortality among persons insured under group contracts to be low.

Legal Definition of Group Life Insurance. In 1918 the National Association (then the Convention) of Insurance Commis-

sioners recommended a standard definition of group life insurance which was adopted by a majority of the larger states. Under this original standard definition group insurance was limited to *employees of a common employer* and to groups of *at least 50* such employees. As the business developed it became desirable to liberalize the standard definition both as to the minimum number of lives in a group and as to the application of the plan to groups other than the employees of one employer, as well as in certain other less fundamental respects. The standard definition was accordingly revised in 1946 and again in 1948 under a "model law" proposed by the Association. This law has been enacted in some states and with minor variations in other states but has not yet become nationwide.

Original Standard Definition of 1918. The original standard definition was short and simple. It covered the basic principles of group insurance. The definition was as follows:

Group life insurance is hereby declared to be that form of life insurance covering not less than fifty employees with or without medical examination, written under a policy issued to the employer, the premium on which is to be paid by the employer or by the employer and employees jointly and insuring only all of his employees, or all of any class or classes thereof determined by conditions pertaining to the employment, for amounts of insurance based upon some plan which will preclude individual selection, for the benefit of persons other than the employer; provided, however, that when the premium is to be paid by the employer and employee jointly and the benefits of the policy are offered to all eligible employees, not less than seventy-five per centum of such employees may be so insured.

The foregoing definition forms a condensed summary which includes all the basic features of group life insurance each of which will now be considered.

Numbers Insured. The first requirement is that the group shall contain a specified minimum number of lives insured, in this case 50, but reduced in the later standard definitions to 25. The object of fixing a minimum number is to ensure that the groups will be large enough to provide a reasonable probability that average mortality will be experienced. Where the group is large,

there is little or no likelihood that the insurance is taken because the health of the members of the group is below the average, but this might easily be the case in a group of, say, 10 or 20 lives. The other benefit of dealing only with groups of substantial size lies in the saving in expenses. The larger the group, the lower the *rate* of expense.

The original limitation of group insurance to groups of at least 50 lives gave rise to a modification of the plan known as *wholesale insurance* under which groups as small as 10 lives were insured.

Under the wholesale plan a separate application is made by each person in the group, and a separate policy is usually issued for each person insured, although in some cases a master policy is issued to the employer, with certificates to the employees, as in group insurance. The plan of insurance and the system and machinery of taking care of it are, however, practically identical with those used in regular group insurance. The insurance is issued under conditions which minimize personal selection on the part of those insured and, as a rule, without medical examination, although a simple form of personal health statement is usually required from each employee. The premium must be paid by the employer in whole or in part, while the amount of insurance is not elected by the insured but is fixed according to schedule on the same principles as for regular group insurance. There is thus little difference, in effect, between wholesale insurance and group insurance except that in the former the insurance company may decline the applications of any employees who appear to be uninsurable. In this way the company can, if necessary, eliminate any bad risks and protect itself against the greater degree of adverse selection to be expected in the case of small groups. The intention, however, is to cover, so far as is deemed practicable, all employees, in the same manner as under a group policy where larger numbers are involved, and the company must take a liberal attitude if the plan is to be of benefit. The plan is properly applicable only to groups which do not contain an abnormal proportion of unhealthy lives but which are too small to come within the legal requirements for group insurance.

Because of the smaller size of the group and the correspondingly higher expense rate, the premium rate is ordinarily somewhat higher than for regular group insurance.

In view of the reduction in the minimum number of lives which may be insured under a group policy, wholesale insurance is now of very much less importance than formerly.

Employees. The next requirement of the 1918 definition was that the persons insured by a group policy must be the employees of a common employer.

As explained later the group system has been extended to groups other than employees of one employer. Employee groups, however, have always formed the greater part of all group insurance issued and are most suited to the successful operation of the system because of the practical elimination of any adverse selection and because the whole of the cost is not paid by those insured. These points will be considered further in connection with the other features of the system.

Medical Examination. Group insurance may be written either with or without medical examination but in practice is written without medical examination. This is a distinctive feature and one of the greatest advantages of the plan. In any group of at least 25 persons there is probably a certain number who could not obtain life insurance on the ordinary terms, if at all, because of physical defects or other reasons; but in a group of the necessary minimum size, consisting of active employees working full time, it may be assumed that there is not a *disproportionate* number of unhealthy lives. Hence individual medical examination is not required, because it is the group and not the individual that is selected. Moreover, by eliminating medical examination the expense is considerably reduced. In small groups employees who are away sick at the inception of the scheme are usually excluded until recovery, but in larger groups they may be included.

Contracting Parties. The policy is issued to the employer who applies for the insurance, makes the contract with the insurance company, and is the policyholder. The insurance company has no direct contractual relation with the employees even where

the latter, as is now usual, make a contribution to the cost of the insurance through payroll deduction. The insurance company merely issues a certificate to each employee stating that he or she is a member of the group and is included within the scope of the policy. The certificate gives particulars as to the amount of insurance and the name of the beneficiary who is to receive payment in event of the death of the insured. It also contains a statement of the right of the employee to take permanent insurance without medical examination in event of termination of employment.¹

Payment of Premiums. The original standard definition and (so far as employee groups are concerned) the later definitions require that the employer must pay either all or a part of the cost of the insurance. If the employer pays the whole of the premium the plan is *noncontributory*. If the employees pay part of the premium the plan is *contributory*.

There are several good reasons why the employer should make a substantial contribution to the cost of a group policy. These include: (1) reduction in cost to the employees, making the plan more attractive and beneficial to them; (2) resulting greater interest and cooperation by the employer in the administration of the plan; (3) the fact that since the employer pays part of the cost, the part paid by the employee can be on a *fixed* and *level* basis—not increasing from year to year as age increases, and not affected by dividends or, necessarily, by an increase in the basic scale of premium rates. Variations in the cost from year to year are absorbed by the employer, who also is entitled to any dividends or rate reductions (under nonparticipating policies), as will be explained later.

The cost to the employee should be low and should compare favorably, even at the youngest ages (where the same *level* contribution per \$1,000 is paid), with the cost of the same insurance if taken on an individual basis.

Originally many group plans were on a noncontributory basis,

¹ The terms of the group policy and of the individual certificates are more fully dealt with later in this chapter.

the employer paying the whole of the cost, but more recently most of the group insurance issued has been on a contributory basis. At present (1951), because of the demands of labor unions and the fact that group insurance and group annuity coverage have become an important element in "bargaining" between employers and unions in connection with wage contracts, there is again some tendency toward the adoption of noncontributory plans.

A noncontributory plan has certain definite advantages. All eligible employees are *automatically* included, thus eliminating entirely the factor of individual selection as to taking or not taking the insurance, while the administrative details are simplified through the elimination of payroll deductions.

There are, however, many good reasons for favoring a contributory plan. In the first place, a larger amount of insurance may be provided for the same employer outlay. Furthermore, the real object of group insurance is to enable employees as a group to obtain, *for themselves*, through the medium of their employer, a basic minimum amount of insurance at the minimum cost. It is not the idea that the employer should give his employees something for nothing. Theoretically, there is no objection to a plan by which the employees pay the entire cost and the employer is merely the intermediary for the collection of premiums (as in *payroll-deduction* or *salary-allotment* insurance); but there are practical objections to such a course. The cooperative plan under which both employer and employee share the cost is reasonable and mutually advantageous. From the employer's point of view the establishment of a group-insurance plan may result in certain advantages such as stability of employment and relief from moral liability for financial relief in certain circumstances. From the employee's point of view the insurance is obtained at a cost which, normally, is substantially below the rate for the same insurance individually secured. In the case of some employees such insurance could not be obtained at all.

Under contributory plans the employees usually contribute the same amount per month per \$1,000 of insurance, regardless

of age, even though the insurance is generally on the 1-year-renewable-term plan, which involves an increase in premium every year in respect to each employee. To increase the contributions each year would be objectionable from a practical standpoint; therefore it is arranged that the employee will pay a flat amount and the employer will pay the balance, whatever it may be. Under the 1-year-renewal-term plan the employees usually contribute not more than 50 or 60 cents per month per \$1,000 of insurance, which is less than most employees would have to pay for individual insurance even on the term plan except, possibly, at very low ages.

The fact that the amount paid by a very young employee may, for a time, be actually more than the net cost of an individual policy is not a serious objection. Inclusion in the plan entitles him to insurance during the whole of his employment (assuming the plan to be maintained in operation) for the same level cost each year. During most of this period the employee pays far less than the actual cost of the benefits he receives.

A contributory plan naturally involves more detail work in its operation. It is necessary to secure the enrolment of the required three-fourths of the total number of eligible employees and their written authorization to the employer to deduct their weekly or monthly contribution from their wages or salary. After the plan is in operation, new employees must be canvassed, and steps must be taken to maintain the group well above the 75 per cent minimum standard. Another point is that, while in a noncontributory plan all, including new employees, are automatically insured from a fixed date, under a contributory plan it is necessary to allow some time for employees to decide whether they will take the insurance. Where an employee does not elect to take the insurance when eligible but later wishes to do so, it is usually necessary for him to furnish evidence of insurability.

It would appear, both a priori and on the basis of experience, that, from all points of view—that of the employer, that of the employee, and that of the insurance company—the most satis-

factory arrangement under most circumstances is the contributory plan.

Classes of Persons Insured. A group may include all of the employees or all of a *class*, provided that the class is determined on the basis of conditions pertaining to the employment. In a railroad company, for example, the wages staff or the salaried staff might comprise a group. It is usual to exclude from coverage employees who have completed less than 3 months or some other period of service, since a short probationary period is desirable in order to eliminate a great deal of unnecessary work on account of transient or temporary employees. Again, when an employer has several plants, the insurance plan may apply to one or more of them, not necessarily to all.

Amount of Insurance. The amount of insurance, or, as it is sometimes called, the *formula* or *schedule* of insurance, must be based upon some plan that precludes individual selection; *i.e.*, the amount of the insurance on any individual must be fixed by rule and must not be subject in any way to his own election. There are five general methods for determining the amount of insurance: (1) it may be the same for all employees; (2) it may be based on the employee's salary; (3) it may be based on the employee's position; (4) it may depend on length of service; (5) it may depend on two or more of these factors.

The first of these methods has the advantage of simplicity. It is open to the objection that an amount which is adequate and suitable in the case of one employee may not be so for another, a junior clerk having the same insurance as a married employee of many years' standing or as a high-salaried officer of the company.

The second plan is the most common and is probably the best where, as is now usual, the employee contributes a part of the cost. Under this plan the amount of insurance is usually approximately 1 or 2 years' salary or wages.

Insurance based on the amount of salary or wages is an improvement over the simple plan of providing a flat amount of insurance for all and is a system which has been very widely

adopted. It adjusts the amount of insurance to the employee's needs and the amount of his contribution to his ability to pay.

EXAMPLE OF SALARY SCHEDULE

Yearly earnings	Amount of insurance	Monthly contribution by employee
\$1,000 or less	\$1,000	\$0.50
\$1,001 to \$2,000	2,000	1.00
\$2,001 to \$3,000	3,000	1.50
Over \$3,000	5,000	2 50

The third method of determining the amount of insurance is that under which the amount is graded according to position held. For example, the schedule may be as follows:

Officers	\$3,000
Foremen and department heads	2,000
Other employees	1,000

This method has a practical disadvantage in that there may be difficulty in satisfactorily defining the different "classes" or "positions." Generally a straight salary schedule is preferable.

The fourth formula for determining the amount of insurance is that under which the amount is made to depend on length of service. This is more suitable for noncontributory than for contributory schemes. It does not work well under a contributory scheme because of the increases in contribution regardless of increases in salary. Usually the insurance commences at a minimum amount of \$500 or \$1,000 for employees having less than 6 months or 1 year of service and increases by degrees to a maximum of \$2,000 or \$3,000 according to a scale stated in the policy. This plan has the advantage of giving recognition to long service and thus of encouraging permanence of service. It does not, however, distinguish between the differing needs of high-paid

and low-paid employees and their ability to pay, unless different classes are insured on different schedules. Under either a contributory or a noncontributory plan a service schedule is likely to result in an increasing average premium cost to the employer, because the percentage of the amount of insurance on the older employees with longer service tends to increase.

It is necessary to place a reasonable limit on the amount of insurance that will be issued to any class in a particular group to prevent the selection against the insurance company which would arise if very high amounts of insurance were allowable, since these very high amounts might be chosen by the employer whose executives were in bad health, and also to prevent violent fluctuations in the mortality rate of the group. At present the maximum amount of insurance that will be issued on any individual employee in any group by most insurance companies is usually determined by the total amount of insurance in the group, being higher for large groups than for small ones.

The proposed revised standard definition of group life insurance includes provision for a top limit of \$20,000 on any employee under a group policy issued to an employer. Formerly there was no limit.

Sometimes it is suggested that an employee should be permitted to take, at his own option, additional insurance at group rates. Such an arrangement could not be permitted (even if it were legal) since an employee in poor health would be likely to avail himself of this privilege to the maximum extent, while many of those in good health would not do so in spite of the favorable terms for such insurance as compared with the cost of insurance obtainable elsewhere. There would therefore be selection against the company. It cannot be too clearly understood that in group life insurance the elimination of individual selection on the part of the persons insured is fundamental. It would not be practicable to allow this privilege even with medical examination, since the premium rate is not sufficient for the expense incident to individual insurance.

Beneficiary. The insurance must be for the benefit of persons other than the employer, and the policy generally states in effect

that the insurance shall be payable to the beneficiary named by the employee as set forth in his individual certificate. The employee has the right to change the beneficiary if he wishes.

In order to avoid, as far as possible, the expense and delay of paying policy proceeds to an employee's estate in the event that the beneficiary has died or no beneficiary has been named, the policy may contain a provision specifying to whom the insurance shall be payable. This usually provides for payment to one of various *alternate preference beneficiaries*, such as wife or husband, children, or parents.

Extension of the Standard Definition. As already stated, the original standard definition of group life insurance was revised in 1946, and again under the model law proposed by the National Association of Insurance Commissioners in 1948. These revisions are effective only in the states where they have been enacted into law. The present law in New York includes most of the provisions of the 1948 model law.

The revised definition adopted by the Association in 1946 reduced the minimum number of employees under a group policy issued to an employer from 50 to 25 and established a maximum amount of insurance on any individual of \$20,000 (including any other group coverage). It also permitted group coverage for groups, other than of the employees of one employer, as follows: (1) a policy issued to a *creditor* to cover a group of debtors whose indebtedness is repayable in instalments; (2) a policy issued to a *labor union* to insure members of the union; (3) a policy issued to the *trustees of a fund* established by *more than one employer* or by *two or more labor unions*.

In the case of the first of these classes (creditor policies) the policy may be issued only if there are currently at least 100 new entrants into the group each year, and the amount of insurance is limited to the amount of current indebtedness not exceeding \$5,000. The whole of the cost may be charged against the persons insured. In the case of labor-union policies, the individual maximum insurance is \$20,000 (including any other group coverage), as for employer contracts, and the premium must be paid at least in part from union funds. Under the third category (a

policy issued to trustees for more than one employer or labor union) the policy must cover at least 100 persons at date of issue, and the entire premium must be paid from employers' funds.

The revised definition of 1948 is similar to that of 1946. Some of the changes incorporated in the 1948 definition are as follows. Under the class of policies issued to a single employer it is provided that no director, in the case of a corporation, and no proprietor or partner, in the case of a firm, is eligible for insurance unless, in the former case, he is also a bona fide employee or, in the latter case, actively engaged in the conduct of the business. The limit of \$20,000 on an individual employee applies only to group insurance on the *term* plan (the 1946 limitation covers group insurance on any plan). In the case of the category of policies issued to trustees of more than one employer or of one or more labor unions there must, in addition to the over-all minimum of 100 persons insured, be not fewer than 5 persons per employer unit. Also, if the fund is established by the members of an employers' association, at least 60 per cent of the employer members whose employees are not already covered for group life insurance must participate unless the total numbers to be covered exceed 600. It is also required that, in this type of group coverage, the policy shall not provide that the insurance on the lives of the employees of one of the employers shall cease if the employer discontinues membership in the association.

Plan of Insurance. Most of the group life insurance in force is on the 1-year-renewable-term plan. This plan is the most popular since it is simple and its cost is low. It is well adapted to the insurance of employees who form a fluctuating group, since adjustments of premiums on account of new entrants and withdrawals are easily made and there are no accumulated equities to be adjusted.

In recent years several different types of group plans providing permanent insurance have been developed. These permanent group plans fall into two major types, the *unit-purchase* type and the *level-premium* type.

Under the unit-purchase plan it is usually provided that, if an employee continues in the employ of a particular employer, an

increasing part of his group life insurance will be in the form of whole-life paid-up insurance. Some plans provide that the purchase of permanent insurance commences at a given age and after a given period of service, say, age thirty-five and 5 years. When such purchases start, an increase may be made in the employees' contributions.

A uniform unit of paid-up life insurance may be purchased by single premium each year for the employees affected. For example, the unit may be such a percentage of the employees' total life insurance that approximately one-half of the total insurance will be on a permanent basis if the employee enters the plan not too late in life and continues in the same insurance class to age sixty-five. On other plans of this type the employee's contributions may be used to buy paid-up insurance, so that the unit purchased each year decreases as the paid-up insurance premium rate increases with increase in age. Usually, as the permanent insurance units are bought under either a uniform or a variable unit basis, the term insurance is correspondingly reduced, so that the total coverage for an employee is that shown for his class in the schedule.

Ordinarily, it is contemplated that, at age sixty-five or at retirement, the portion of the insurance that is still on a term basis will be discontinued, the permanent insurance already purchased remaining in force without further premium payments during the balance of the employee's lifetime. The employee then may have the right to apply for an individual policy of life insurance for an amount equal to the amount of term insurance being discontinued, at the premium rate for his attained age.

In order to produce a reasonable amount of permanent insurance at age sixty-five for the older employees when the plan is put into effect, provision may be made to purchase permanent insurance on account of the years of service prior to the adoption of the plan.

When an employee for whom permanent insurance has been purchased terminates his employment, he may retain the permanent insurance which has been bought for him by both his own and his employer's contributions and, if he wishes, convert the

amount of term insurance being discontinued into an individual policy of life insurance at the premium rate for his attained age, in accordance with the policy provision referred to above. An alternative option may be included under which the employee may take a cash-surrender value based on his own contributions (not including his employer's) in lieu of permanent insurance.

Under the level-premium plans the insurance may be either on the whole-life, endowment, or retirement-income plan, with level premiums payable for life or to age sixty-five. On termination of employment the employee will have certain cash or paid-up privileges and also may have the option of continuing the full amount of insurance in force by paying direct to the insurance company the level premiums based on his age when the insurance was issued for him.

The provision of permanent (rather than 1-year term) insurance under a group plan, whether as paid-up life insurance or insurance on one of the permanent plans, has created a practical question as to whether an employer's contribution to such insurance is taxable income to the employee. Permanent insurance involves the creation of a cash-surrender value, and where an employer pays for such insurance the employer's contribution may be regarded as equivalent to additional salary or wages. This question has come under the scrutiny of the Treasury Department, but it has not yet been decided whether such contributions are taxable income to the employee or, if so, when the additional income should be reported (*i.e.*, when contribution is paid or when benefit is received). The answer to this question may become an important factor in connection with group insurance involving other than 1-year term insurance.

Benefits in Event of Total Disability. Group-life-insurance policies issued before the latter part of 1932 provided that the amount of insurance would be payable either at death or in the event of total-and-permanent disability before age sixty. In the latter case the insurance would be payable in instalments, usually over a period of 5 years. This disability provision is not now included in new policies and has been removed, by agreement with the employer, from many policies issued in the past. The

reasons for the elimination of disability benefits are much the same as are discussed elsewhere in connection with total-and-permanent-disability-benefit clauses in ordinary policies. Policies issued during the period 1933 to 1937 provided for the payment of death claims incurred during a period of a maximum of 1 year after termination of employment if the employee had been totally and continuously disabled since the date of termination of employment and death had occurred before age sixty-five. This clause has now been replaced by a provision for the payment of death claims occurring after termination of employment, with no limitation on the duration of time between the termination of employment and the date of death, if the employee becomes totally disabled before age sixty and such disability continues uninterruptedly from the date of termination of employment to the date of his death, provided that evidence of the continuance of such total disability is presented to the insurance company once a year for the entire period of disability.

Cost. The cost of group insurance on the 1-year-term plan is very low—usually about 1 per cent of the total amount insured. The actual cost per thousand depends on the nature of the industry and upon the distribution of the employees by age. Even when compared with the cost of temporary insurance when taken by individuals, group insurance is relatively inexpensive. This is partly because a favorable mortality experience is to be expected, but chiefly because of the saving in expenses. The cost of medical examination is eliminated, while the commission payable is at a much lower rate than for individual insurances on the term plan, particularly for large groups, since the rate of commission decreases as the total premium increases. The administrative expenses of the insurance companies are lower than for individual insurances because they have developed and are still developing simplified methods of accounting for large numbers of items on a grouped basis.

The minimum rates of premium in the case of companies operating in the state of New York have been regulated by law since 1926 in order to keep the companies from accepting group business at inadequate rates in the course of competitive bidding.

These minimum rates apply both to participating and nonparticipating policies. However, in the case of nonparticipating companies, the policy usually calls for periodic adjustment of premiums on an experience basis, and participating policies have provisions for rate changes as well as dividends, so that the use of the same premium rates for both classes of policies does not involve any inconsistency. Extra premiums are charged at issue for special occupational hazards in a few industries. These extras and the basic premiums themselves are merely the *initial* rates upon which the policy is issued, the cost thereafter being determined either by dividends or by premium revisions.

The original scale of minimum premiums for group life insurance adopted by New York in 1926 remained in force until July, 1950. It was based on the American Men Mortality Table with interest at $3\frac{1}{2}$ per cent with a small expense loading. These premiums were known as the "T rates." In view of (1) the improvement in mortality; (2) reduction in interest earnings; and (3) reduction of the minimum number of lives which could be insured under a group policy from 50 to 25, a new scale of minimum premiums was made effective July 1, 1950. The basis of the new minimum premium scale is the C.S.O. Table with interest at 3 per cent. Since the expense rate per \$1,000 is higher on small than on large groups, an additional expense loading is specified for the first \$75,000 of the total insurance. The minimum rate is, therefore, higher for the first \$75,000 than for any additional amount of total insurance under a group, whereas under the T rates the premiums per \$1,000 were the same irrespective of the total amount of insurance. The table on page 396 illustrates the difference between the old and the new minimum initial premiums.

The premium for group insurance may be paid by the employer (or other policyholder) annually, semiannually, quarterly, or monthly. Where the premium is paid annually the cash adjustments on account of terminations and new employees are made annually or periodically (usually monthly) throughout the year. Where the premium is paid at shorter intervals, as monthly, these adjustments are made on the premium-due dates, the premium

payable being based on the net amount of insurance in force on the due date of the premium.

When the group policy is issued on a contributory basis, it is desirable that the employee's contribution should be on a level basis for each \$1,000 of insurance (*i.e.*, not increasing with age) and also that the amount paid by any employee should not be substantially greater than the full cost. Since it is impracticable to vary the employee's contribution according to age, this means

MINIMUM INITIAL ANNUAL PREMIUM RATES PER \$1,000
(1-year-term group life insurance, New York)

Age	1926 rate (T rate)	1950 rate	
		First \$75,000	Amount in excess of \$75,000
20	\$ 5.87	\$ 4.39	\$ 2.59
40	7.85	8.40	6.60
60	29.39	30.20	28.40

that the maximum contribution payable by any employee must be regulated with reference to the rate of premium payable at the lowest age. The usual rule for policies on the 1-year-term-premium basis has been that the maximum rate of contribution payable by any employee in a standard occupational group shall be not more than 60 cents per month per \$1,000 of insurance. Under a reduced scale of premiums a lower employee contribution will be appropriate.

The fact that a very young employee may pay more than the full cost is not objectionable. Those who are young now will be older later and will then have the benefit of the employer's contributions, while it is reasonable that the employer should pay a larger share of the cost for an employee of many years' standing than for a recent employee, who gets a sufficient benefit

by admission to the group with the privilege of insurance at very low rates.

The total initial premium payable by the employer is calculated by adding together the individual premiums obtained by multiplying the amount of insurance on the life of each employee by the premium rate at his attained age. From this total initial premium an average premium per thousand is calculated upon the basis of which all adjustments for new entrants and terminations during the year are made, irrespective of the actual ages of the individual new employees or of employees terminating service. At the end of each policy year a new average premium is ordinarily determined, based on the age distribution at that time.

In estimating the total amount of premium payable it would not be correct to apply the rate of premium for the *average age* to the total amount of insurance. The following illustration, taken from the group manual of one of the principal companies, illustrates how serious the error involved in this procedure might be. A group of nine persons are insured for \$1,000 each, the premium being as follows:

Age	1-year-term Premium per \$1,000
15	\$ 5.39
20	5.87
25	6.27
30	6.43
35	6.76
40	7.85
45	10.02
50	13.78
55	19.87
<hr/>	
Total of ages, 315	Total premium, \$82.24
Average age, 35	Average premium, \$ 9.14

The average premium corresponds to an age about 10 years higher than the average age. This is because the rate increases more rapidly as age increases.

It may be noted that the total premium cost where each em-

ployee is insured for the amount of his annual *salary* will be greater than where the insurance is a flat amount for each employee, if the total amount of insurance for the whole group is the same. This is because on the former basis the larger amounts of insurance are, in general, on the lives of the older employees, for whom the premium rates are higher. The same considerations apply where the amount of insurance is made to depend on length of service.

When the policy is effected, a *census* is taken of all employees eligible for insurance who are to be included in the policy. The *initial coverage*, or total initial amount of insurance, is ascertained in accordance with the formula of insurance to be adopted, and the initial premium payable is obtained as indicated above.

Adjustment of Rates. The policy contains a provision for adjustment of the premium rates. The original premium rates are guaranteed against increase, sometimes during the first 5 years of the policy, but usually during only 1 year. Rates may be increased on any anniversary after the original guarantee period has expired. Increases in rates may not be made retroactive. On level-premium group permanent plans the increased rates would generally be applicable only to employees becoming insured after the original guarantee period had expired or for subsequent increases in amount on other employees.

Under participating policies, dividends are usually payable annually. Under nonparticipating policies, the premium rates are subject to retroactive reductions based on experience, with refunds payable to the policyholder. Dividends or retroactive rate reductions are payable, when earned, to the employer, who may apply them to reduce his contribution to the cost of the insurance or may use part or all of them for the benefit of the employees. If any such dividend or refund exceeds the employer's contribution to the premium, any such excess is applied by the employer for the benefit of the employees, as the laws of several states require.

In determining dividends and rate reductions, the mortality experience of the specific group and the mortality experience of

the group business as a whole are usually taken into account; sometimes, also, the mortality experience in the industrial class to which the group belongs is considered.

Substandard Groups. Where a group is composed either entirely or partly of persons subject to extra hazard, an extra premium is necessary. For insurance on the 1-year-term plan, the extra premium required is merely the amount necessary to meet 1 year's excess of claims over the normal number (except in industries where an extra premium is necessary because of a catastrophe hazard) and will represent approximately the difference between the expected and tabular rates of mortality. For practical purposes it is generally assumed that the extra premium required is the same at all ages. Where only a portion of the total number of employees is subject to the extra hazard, a modified extra premium is calculated, which is applicable to the group as a whole. Thus, if 25 per cent of the persons in a group are subject to an extra hazard which would necessitate an additional premium of \$4 per \$1,000 insured (the remaining 75 per cent not being subject to extra hazard), the whole group is insured at a rate of premium increased by \$1 per \$1,000. In such a case all employees in a contributory group would pay the same rate of contribution. This avoids the necessity of distinguishing between different classes of risks in the same group in making monthly, or other, premium adjustments.

Thus, in general, rates for group insurance are on the basis of industry and not according to individual occupational groups within an industry. This simplifies the practical handling of details very considerably.

Terms of the Policy and Certificates.² Most of the important provisions of group-life-insurance policies have been mentioned in the foregoing paragraphs. In addition to these special provisions, group policies contain such of the customary standard policy provisions as are applicable to group insurance.

The model law proposed by the National Association of In-

² See Appendices C and D for specimen group policy and certificate.

insurance Commissioners in 1948 provides for the following standard provisions in group policies on the 1-year-renewable-term plan:

- (1) A provision for a grace period of 31 days in payment of premiums;
- (2) A provision that the policy shall be incontestable after 2 years, except for nonpayment of premiums;
- (3) A provision that a copy of the application shall be attached to the policy and that all statements made by the policyholder or by the persons insured shall be deemed to be representations;
- (4) A provision setting forth the conditions, if any, under which the insurance company may require evidence of the insurability of an employee eligible for insurance;
- (5) A provision for the method of adjustment of either premiums or benefits in event of misstatement of age (in group insurance it is more practicable to adjust the premiums payable than to change the amount of insurance);
- (6) A provision that the amount of insurance shall be payable to the beneficiary designated by the employee and that, if there is no beneficiary designated, the company may pay up to \$250 to any person appearing to be entitled thereto by reason of having incurred funeral or other expenses incident to the last illness of the insured;
- (7) A provision that the company will issue a certificate to each insured employee stating the insurance benefits, the beneficiary, and the rights and conditions specified in provisions (8), (9), and (10) following;
- (8) A provision that, upon termination of employment, the insured may elect within 45 days to take, without medical examination, a policy on a plan other than term insurance for the amount of group insurance terminated, at the regular premium rate applicable to his then age;
- (9) A provision that if the group policy is terminated, an employee who has been insured for at least 5 years shall be entitled to take an individual policy on the same basis as

under provision (8) but not exceeding the smaller of (a) the amount terminated less the amount of any new or reinstated group insurance effected within 45 days, and (b) \$2,000;

- (10) A provision that if an employee dies during the period within which he would have been entitled to have an individual policy issued to him under (8) or (9) and before any such individual policy has become effective, the amount of such life insurance to which he would have been entitled shall be payable as a claim under the group policy whether or not application for the individual policy or the payment of the first premium therefor has been made.

Provisions (6) to (10) do not apply to policies issued to a creditor to insure debtors.

The provision giving withdrawing or retiring employees the right to obtain permanent insurance at the rate applicable to the age attained at termination of service is of tremendous value to the employee who is uninsurable at that time. The fact that such insurance as is converted shows a very high mortality—several times the tabular rate—is evidence that it fills a vital need, even though comparatively few employees take advantage of this option. The much higher cost of the converted insurance, particularly at advanced ages, when compared with the contribution for group insurance, no doubt prevents many from taking it.

Other provisions which are usually found in a group policy are as follows:

A provision that employees whose employment is temporarily suspended because of sickness, a reasonable period of temporary layoff, or other similar reasons will remain insured if the employer continues payment of the premium.

A provision for payment of the insurance in instalments instead of in a single sum if so elected by the employee or his beneficiary.

A provision that the insurance of an employee shall not be invalidated because of the employer's clerical error in omitting

to notify the insurance company that the employee had become eligible.

Economic Aspects. There is no doubt that group insurance has many economic advantages from the point of view both of the employer and of the employee. It gives additional incentive to permanency of employment. When such a plan is introduced, it may be combined with an existing pension plan or with existing arrangements for payment of sick benefits, or, where these do not exist, they may sometimes be introduced at the same time by means of group-annuity, group sickness-and-accident, group hospitalization, or group surgical-operation policies. These other forms of group insurance are very often issued with group life insurance as a complete program of insurance protection for employees.

Group life insurance is the best means of making a definite provision for the dependents of employees and is much more satisfactory to all concerned than a voluntary contribution from the employer or from the other employees to meet the immediate needs of the family of a deceased employee where some assistance is necessary.

Extent and Progress of Group Insurance. The table given on page 403 indicates the extent and progress of group insurance to the end of 1949.

Except during the depression years in the early 1930's when all forms of life insurance showed a decrease in the total amount in force, the volume of group insurance has steadily increased and, as shown in the table, now accounts for about one-fifth of all life insurance in force—ordinary, group, and industrial.

Considering the catastrophic decrease in employment during the depression of the 1930's, it is remarkable that at the low point of the depression, group life insurance in force was only about 10 per cent below the previous maximum. This was due partly to the fact that employers as a whole adopted the generous course of continuing to pay premiums for the insurance on many of the employees laid off for lack of work. Furthermore, only a very small percentage of the group insurance in force was discon-

GROUP LIFE INSURANCE ¹

(Amount of insurance in force in the United States and Canada, Dec. 31)

Amount (in millions of dollars)	Per cent of all life insurance in force
\$ 13	0.1
349	1.2
1,893	3.6
6,653	7.2
9,619	8.7
13,568	11.7
20,710	14.9
34,905	17.1
44,450	19.0

¹Source: Spectator Year Books, Reports of the Superintendent of Insurance of the Dominion of Canada.

tinued because of termination of entire master policies by employers.

GROUP ANNUITIES

A *group-annuity* contract provides for the payment of an annuity or pension to the employees of an employer with whom the contract is made. Such contracts take the place of individual retirement systems operated by the employer and undoubtedly form a much more satisfactory basis for old-age provision. Individual retirement systems, except in special circumstances, may be unsatisfactory because of the absence of a sound financial basis, or because of the lack of permanence of the average industrial corporation, or because of lack of expert knowledge on the part of those charged with the administration of the pension funds.

The first group-annuity contract in substantially the present form (master policy and certificates) was issued in 1921. For some years the total number of such contracts issued was small, but in recent years there has been a considerable expansion in

the volume of group-annuity business, and at the present time there are approximately 2,300 contracts in force covering about 2 million employees. Some of the individual contracts which have been issued are for very large amounts, involving many thousands of employees and correspondingly large premium payments.

The general basis of operation is the same as for group insurance. The contract is made between the insurance company and the employer to whom the policy is issued, the employees receiving certificates of their inclusion in the plan, while premiums are paid to the company by the employer. There are many special features in a group-annuity contract quite different from anything in group term insurance, since the accumulation of funds for the payment of deferred annuities is radically different from a provision for temporary life insurance.

When a group-annuity plan is presented to the employees, a more or less elaborate announcement form is printed to give them an explanation of the working of the plan as it affects their rights and benefits. A specimen announcement, typical of one of the standard group-annuity plans, is shown in Appendix E.

Contract and Rules. The principal features of the rules now generally adopted for the issue of group-annuity contracts and the usual terms of such contracts are stated in the following paragraphs.

Number of Lives and Employees Eligible. Eligible employees are those with a stated minimum period of service, usually 1 to 5 years, who are not over the normal retirement age. The usual rule is that not fewer than 50 lives may be included and not less than 75 per cent of those eligible must subscribe. The chief purpose of these requirements is to ensure that a sufficient number of employees will be covered to make the contract economical to administer. The insurance company may reserve the right to terminate the contract (as to further purchase of annuities) if the number drops below the minimum requirements.

Employees already at or over the retirement age may be provided for by the purchase of immediate annuities.

All employees or all of any class or classes determined on the

basis of conditions pertaining to employment may be included.

Retirement Age. The *normal retirement age* is generally sixty-five. Other retirement ages may be permitted, but not beyond age seventy.

Annuity Based on Service Rendered after the Adoption of the Group-annuity Plan. The total annuity usually depends upon the salary and length of service (*unit-benefit plan*). It is usually a percentage (from 1 per cent to 2 per cent) of the employee's average salary for each year he contributes under the plan. In most cases the employee helps to pay for this annuity, and his contribution is generally a percentage of salary (from 3 to 6 per cent).

Where the employees are covered under the federal Social Security Act, the benefit applicable to the portion of earnings with respect to which social-security benefits are provided is usually adjusted so that, together with the benefits contemplated by the Act, there will be produced a total retirement income to the employee approximating a fixed percentage of his salary multiplied by the number of his years of future service up to retirement. In some cases the benefit may be expressed as a specified percentage of average earnings times years of membership in the plan, less the amount of the social-security benefit, although this type of adjustment for social security is more frequently found in deposit administration or trustee types of plans described later.

For simplicity, and in order to reduce the expense of operation, the contribution and annuity credits are usually based not on actual salary but on assumed average salaries within specified salary groups (see employees' announcement in Appendix E).

Premiums. The payments made to the insurance company for the purchase of group annuities are frequently referred to as "stipulated payments" or "considerations" but for convenience they are referred to here simply as *premiums*.

The employer pays the balance of the premium over and above the employee's contribution. The annuities are nearly always purchased by applying the amount of each year's total premium to the purchase of a *single-premium deferred annuity* equal to

the annuity credited to the employee on the basis of that year's salary. (The *level-annual-premium basis* is seldom used.) In this way the contract is always "paid up" for the amount of annuity credited to the employee with respect to service rendered since the date of adoption of the plan. This practice simplifies all dealings in regard to terminations of employment, changes in salary, etc.

Since the employee's contribution does not change from year to year as the employee gets older and as the premium increases, the employer's part of the total premium is smaller for the young employees than it is at the higher ages. Some idea of the cost of a typical group-annuity plan and of the relative parts paid by the employee and employer is given in the following table, which is based on the current premium rates of one of the principal companies:

ILLUSTRATION OF APPROXIMATE COST OF A GROUP-ANNUITY PLAN ¹

(Monthly premiums for an annuity of \$1 per month for each year of future service, commencing at sixty-five) •

Attained age at time premium is paid	Male employees			Female employees		
	Em- ployee's contribution	Em- ployer's contribution	Total	Em- ployee's contribution	Em- ployer's contribution	Total
20	\$3.00	\$1.03	\$ 4.03	\$3.00	\$ 1.95	\$ 4.95
30	3.00	2.06	5.06	3.00	3.22	6.22
40	3.00	3.40	6.40	3.00	4.86	7.86
50	3.00	5.27	8.27	3.00	7.08	10.08
60	3.00	8.26	11.26	3.00	10.43	13.43

¹ These rates are on a basis of no interest on refund of employees' contributions at death or withdrawal.

Annuities on Account of Past Service. The employer may, and usually does, purchase at his own expense annuities correspond-

ing to service rendered prior to the date of issue of the group contract. The cost of such annuities usually consists of the total amount of the single premiums needed to purchase, say, 1 per cent of *present* salary for each year of past service for each employee. Sometimes only service after a specified age is included. If past service were completely omitted, any practicable plan would result in inadequate annuities for those employees who had already reached the higher ages when the plan was adopted. The inconvenience of making the large outlay involved in paying for past-service annuities at one time is usually taken care of by providing that the purchase of these annuities may be spread over a period of years.

Guarantee of Premium Rates. Premium rates are usually guaranteed for 5 years. After the expiration of the initial 5-year period, the premium rates are usually subject to change each year. No changes, of course, would affect annuities already purchased. It is also usual to reserve the right to change other policy provisions (such as withdrawal and option values) except in respect of annuities purchased before date of change.

Payments in Event of Death. In event of death prior to the retirement age the employee's contributions are returned, either *with* or *without* interest, according to the type of plan. The employer's contributions are not returned, since the employer's contribution rates are calculated on a regular deferred-annuity basis without provision for refund in case of death.

Payments in Event of Withdrawal. Where the employee leaves the service of the employer, he may usually elect either (1) a paid-up deferred annuity in such amount as his own contributions have purchased or (2) a return of his contributions with or without interest according to the type of plan.

It is almost always now arranged that in event of withdrawal after the fulfilment of certain conditions, such as attainment of a specified age or completion of a specified period of service, or a combination of such conditions, the employee who does not withdraw his contributions will be entitled not only to the paid-up annuity purchased by his own contributions but also to the paid-up annuity purchased by the employer's contributions.

When an employee leaves the service in good health, but not otherwise, a return is allowed to the employer. When this is applied by the employer against the employer's portion of considerations due under the contract, it is usually equal to 96 per cent of his contributions with interest less a charge equal to 4 per cent of the employee's withdrawal value. The latter charge is not made under "without interest" plans if the employee has contributed for 3 or more full years.

When interest is allowed in connection with death benefits and withdrawal values, the rate is now usually 2 per cent.

Dividends. In participating policies provision is made for dividends which are payable in cash or may be applied in reduction of premium. In contracts issued by stock companies the same result is obtained by providing for an *experience credit*, which is equivalent to a dividend.

Effect of Social Security Act. The effect upon group-annuity business of the passage of the Social Security Act in 1935 has borne out the predictions which were then made—that this Act would not replace group annuities and would in fact tend to open a new field for sale of group annuities to supplement the benefits provided by the Act so as to provide amounts reasonably corresponding to salary. There has been continued, and well-maintained, growth in group-annuity business throughout the period since the Act became effective.

Deposit-administration Plans. In recent years many retirement plans have been established on a noninsured basis with a bank acting as the trustee of the retirement fund. Some insurance companies issue a deposit-administration group-annuity plan which combines some of the characteristics of such a trustee type of plan with some of the features of group-annuity plans as just described.

Under a deposit-administration contract, the contributions of the employer and the employees are held in a deposit fund on which interest credits are allowed by the insurance company. At the time of retirement of an employee, there is withdrawn from such fund an amount sufficient to purchase the retirement annuity benefits of such employee on the basis of a rate schedule

which is part of the contract. Accordingly, no purchases of annuities would be made on account of employees who die or otherwise withdraw from the plan prior to retirement.

The amount of the deposit fund is generally determined on the basis of actuarial estimates made from time to time either by the actuaries of the insurance company or by actuaries retained by the contract holder, subject to any specific contractual limits which may be placed on the size of such fund.

Effect of Revenue Act of 1942. The Revenue Act of 1942 provides that employer contributions to group-annuity plans within certain limits may be deducted as a business expense in computing the employer's income and excess-profit tax, provided that the contributions and benefits under the plan do not discriminate in favor of employees who are officers, shareholders, or supervisory or highly compensated employees. Under the same circumstances the employer contributions do not constitute taxable income to employees until disbursed to them under the provisions of the plan.

Extensive regulations have been issued by the Board of Internal Revenue governing the determination of nondiscrimination. These regulations provide in general that at least a certain proportion of the employees be covered and that the benefits provided under the group-annuity contract together with those available under the Social Security Act cannot be less favorable in relation to salaries for lower paid employees than for those in the higher salary brackets.

This legislation seems to have stimulated interest in sound group-annuity plans, since the tax exemptions involved are substantial and since the regulations include many requirements in agreement with principles of sound underwriting, which the insurance companies have applied in connection with group-annuity plans.

CHAPTER XVI

INDUSTRIAL INSURANCE ¹

Industrial insurance is the business of insuring for small sums under policies providing for weekly, or sometimes monthly, premiums. It is carried on chiefly among the industrial or wage-earning classes. Many of those belonging to the industrial classes, the majority of whom are paid weekly, either cannot afford to carry ordinary life-insurance policies subject to annual, semiannual, or quarterly premiums for amounts which the companies are prepared to issue or cannot adapt their budgets to meet the larger payments due at such intervals. By furnishing insurance in small units and receiving premiums weekly or monthly, the system of industrial insurance supplies life insurance which meets the circumstances of such persons. Children, as well as adults, are insured. With minor exceptions, industrial policies are for less than \$1,000, the average policy being for about \$300.

The laws of a number of states define industrial life insurance in substance as "that form of life insurance, the policies for which include the words *Industrial Policy* as part of the descriptive matter; and (a) under which the premiums are payable weekly, or (b) under which the premiums are payable monthly or oftener, but less often than weekly, if the face amount of the insurance provided in such policy is \$1,000 or less."

While the main characteristic of industrial insurance is insurance of small sums with premiums usually payable weekly, there are other distinctive features. The premium is normally received at the home of the policyholder by an agent of the company. The premium tables usually show the varying amounts

¹ For a complete discussion of industrial insurance see M. E. Davis, "Industrial Life Insurance in the United States," McGraw-Hill Book Company, Inc., New York, 1944.

of insurance obtainable on each plan of insurance and at each age for weekly premiums of stated amounts, such as 5, 10, or 25 cents. There has, however, been some tendency in recent years to adopt the sum insured as the unit, at least for the larger amounts of insurance.

Insuring age is determined on the basis of the *next* birthday, rather than *nearest* birthday as in ordinary insurance. Industrial policies with monthly (instead of weekly) premiums were introduced by the Metropolitan Life Insurance Company in 1927, soon after the adoption of the monthly-premium basis for ordinary policies and the receipt of such monthly premiums by agents at the policyholders' homes. These (industrial) policies are now issued mainly for \$500 or \$750, although policies for smaller amounts are issued on the 20-year endowment plan.

Industrial insurance is sometimes called "family insurance" since it is written on all members of the family from birth to age sixty-five or seventy. Only a small proportion of ordinary insurance is on the lives of children, although in recent years, increasing attention has been given to the writing of such insurance. In New York State a life-insurance policy may be issued only upon the application or with the written consent of the person insured, whether the latter is a minor or not, but exceptions are made in the case of a husband and wife, and in the provision that a limited amount of insurance may be taken on the life of a child under the age of fourteen years and six months by a person liable for the child's support. Formerly, insurance could not be effected in some states on the lives of children below the age of one year, but all such limitations have been removed, so that now insurance may be issued in all states on the lives of children from birth. Industrial as well as ordinary policies on the lives of children generally provide for increasing amounts of insurance during the early years. For example, for a weekly premium of 5 cents the "life-paid-up-at-65" policy of one company, issued at age one, provides insurance of \$40 in the first year, increasing to \$165 in the seventh and subsequent years.

Another important difference between industrial and ordinary

insurance is found in the evidence of insurability required. Because of the small amount of the premium received, a medical examination such as is usually required for ordinary insurance is not practicable. For the most part, the company relies on the information contained in the application, including a statement by the agent. An examination may be called for, if considered necessary—as at the higher ages or where there is a question as to the applicant's physical condition—but, for financial reasons, such an examination must be much less detailed than in the case of ordinary insurance. The company has some additional protection in the provision that, subject to the terms of the incontestable clause, the policy is voidable by the company under certain stated conditions.

Partly because of the absence of medical selection, but more particularly because of the broader base for "standard" insurance and the higher death rates generally prevailing in low-income groups, industrial insurance is subject to a higher rate of mortality than ordinary insurance. The rate of mortality among industrial policyholders has, however, shown a marked reduction in recent years, especially at the lower ages. The improvement has been greater than for other classes of insurance, and industrial mortality in one large company is now less than 15 per cent higher than ordinary mortality. Even 15 or 20 years ago it was about 40 per cent higher. The improvement has been due in part to improved underwriting but mainly to medical advances and to better living and working conditions.

Plans of Insurance. Industrial policies are issued on several plans of insurance although, because of their smaller size, not on as many plans as ordinary policies. A life policy with premiums payable to an advanced age such as sixty-five, seventy, or seventy-five and a life policy with premium payments limited to 20 years are issued by most companies.

Industrial 20-year-endowment policies have also been very popular, especially for insurance on the lives of children. Endowment policies (except those maturing at age sixty or older) are no longer issued on the weekly-premium basis, however, by the three largest companies. The reduction in the rate of interest

that can be earned on invested funds has made it advisable to issue such policies only on the less costly monthly-premium basis. Monthly-premium 20-year-endowment insurance is issued for amounts as small as \$250, either as industrial or ordinary. Since 1938, New York has not permitted the sale in that state of endowments as industrial policies, but since 1942 has permitted the sale of monthly-premium endowments of less than \$1,000 as ordinary policies, without provisions for policy loans or dividend options. There is no significant difference between these ordinary policies and industrial monthly-premium policies.

Premium Rates. In general, weekly-premium policies are written in the larger companies only on low-premium plans; in amounts of not more than \$750; and, at ages one through nine, for premiums not over 25 cents a week. Weekly-premium policies cost more than monthly-premium policies, and the rules of the companies are intended to limit weekly-premium insurance only to those cases where it is suitable and necessary.

LIFE-PAID-UP-AT-75 POLICY

Age at issue	Weekly-premium policy, amount of insurance for weekly premium of \$0.05	Monthly-premium policy, monthly premium per \$750 insurance
20	\$104	\$1.44
30	79	1.89
40	57	2.64
50	38 ¹	3.90
60	23 ²	6.45 ²

¹ Weekly-premium policies are not issued by this company for less than \$50 insurance. If amount purchased by \$0.05 premium is less than \$50, a multiple of \$0.05 is required.

² At age sixty, the maximum amount of insurance that will be issued on this plan is \$500.

Specimen weekly and monthly premium rates currently used by one of the large companies are shown in the above table. The premiums were computed so that the premium per year when

payable monthly would be 10 per cent less than the premium per year when payable weekly. These premium rates are for participating policies, and the cost of insurance is decreased by any dividends declared by the company; the rates include the cost of the double-indemnity and disability benefits provided by the policies.

The premiums for weekly or monthly industrial policies are, of course, higher than for standard ordinary insurance. This higher cost results both from the higher rate of *expense* and the higher rate of *mortality*. It is often erroneously assumed that the higher cost of industrial insurance is entirely due to the greater rate of expense.

Expense. The greater *expense* of industrial insurance is due almost entirely to the cost of the additional service to the policyholder by having the premiums collected in small amounts at short intervals at his home. An analysis of the expenses in one large company showed about 90 per cent of the excess of industrial over ordinary expenses was due to this additional service to policyholders. Some companies, including the three largest, offer the policyholder a refund of 10 per cent of the weekly premiums if payment is made direct to the company for at least a year.

Many types of expenses are necessarily greater where the unit of insurance or of premium is small, but such increased costs are very largely offset by simplified methods of operation, including the system of premium accounting used, elimination of certain procedures and records customary or necessary for ordinary insurance, and simplification of the contract—as by the omission of dividend options and, generally, provisions for optional modes of settlement.

The difference in total expense charges between the two branches is in fact remarkably small. For instance, a study of one company's business, made by a state insurance department in the 1930's, indicated that for holders of weekly-premium industrial policies who took advantage of the 10 per cent refund for direct payment of premiums, the expense charge exceeded that

for monthly-premium ordinary policies by only about 3 per cent of the premiums. For those who preferred to use the agent's service when paying premiums, the expense charge exceeded that for monthly-premium ordinary policies by about 13 per cent of the premiums. For monthly-premium industrial policies, the expense rate is about the same as for monthly-premium ordinary policies.

Despite increased expenses in the postwar years, and the introduction of many additional services to policyholders, the expense rates of industrial insurance are materially lower than they were at the turn of the century. Thus, in one of the large companies the expense rate for weekly-premium business on which premiums are received by agents has been reduced by about 15 per cent since the early 1900's. The reduction for its total industrial business, including monthly-premium policies and those on which premiums are paid direct to the company, is substantially greater.

Mortality. The second reason for the higher cost of industrial insurance is the higher rate of mortality experienced among those insured.

There are two main reasons why the mortality rate is higher among industrial than among ordinary policyholders. One is that industrial insurance is written largely on persons in the low-income groups, which are subject almost without exception to a higher death rate—at all ages, for both sexes, and in respect of every important cause of death. The other reason is the different basis and methods of selection. Not only is there usually no medical examination for industrial insurance, but the limits of classification for such insurance at standard rates are wider and are intended to include the great majority of those applying for insurance. In the aggregate the excess of industrial over ordinary mortality at the present time in one large company is, as already stated, less than 15 per cent.

Lapse. One of the criticisms sometimes directed against industrial insurance is that there is an excessive rate of lapse, with consequent loss or added cost to policyholders. This criticism

overlooks or ignores some important facts. All forms of voluntary financial programs are subject to a relatively high "nonpersistence" rate—human nature being what it is—particularly in the early stages, so that a certain amount of early lapse is unpreventable and inevitable. Every effort is made, however, to induce policyholders to keep their insurance in force. The system of compensating agents and district managers is such that it is to their interest to prevent lapses. Furthermore, agents are instructed not to oversell, and some companies have established definite procedures designed to avoid issuance of insurance calling for premium payments out of proportion to the family income.

As a matter of fact, the lapse rate is not excessive. The experience of one large company during 1949 showed that only 8.7 per cent of the weekly-premium policies issued lapsed during their first six months. Of those which remained in force for that period only 6 per cent lapsed during their next full year, while thereafter the yearly lapse rate was about 4 per cent.

A more important point is that these "lapses" included *all* premature terminations of premium payments and that in a large proportion of them the insured received either a cash value or some form of continued insurance protection. Criticisms relating to lapses often imply that the premiums paid by the lapsing policyholder represent a total loss. Even on policies which lapse before premiums have been paid long enough to provide a nonforfeiture value, the policyholder has received insurance protection and other service while the policies were in force on a premium-paying basis. The percentage of the total premiums paid on all terminated policies which is paid on policies lapsing without any cash or insurance value is extremely small—less than 1 per cent. Many "lapses" occur, moreover, not because of inertia or inability to pay premiums, but because the insurance has served its purpose and the policyholder prefers to take the cash value or the paid-up insurance benefit. It is therefore a mistaken idea that the rate or volume of terminations, other than by death or maturity, is a measure of the extent to which the insurance issued has failed to serve its purpose.

Terms of the Policy.² An industrial-insurance policy differs in some important respects from an ordinary policy. Some of the more important distinguishing features of industrial policies as currently issued are explained in the following paragraphs. The terms of the policy are, of course, not the same in all companies. These paragraphs indicate general practice, particularly in the large companies.

Option to Surrender within 2 Weeks. The policyholder may, if not satisfied, return the policy within 2 or 3 weeks of its date of issue and have his premiums refunded. In that event he receives free insurance from the date of application until cancellation.

Beneficiary and Facility of Payment. Industrial, like ordinary policies, now commonly provide for naming a beneficiary. However, provision is made that if the beneficiary named in the policy does not submit claim within a certain period (30 or 60 days) after the death of the insured, or if the beneficiary is the estate of the insured, is not legally competent, or dies before the insured, the death benefit may be paid under the *facility-of-payment* clause. This clause permits the company to make payment to the executor or administrator of the insured, or to a named beneficiary, or to any relative by blood or connection by marriage of the insured appearing to the company to be equitably entitled to such payment. It has as its object simplification of the relations between the insured or claimant and the company and often renders possible equitable payment of claims without undue expense or delay.

Assignment and Loans. Industrial policies in the majority of companies specifically prohibit assignment. This helps to forestall the efforts of unscrupulous persons who might otherwise profit at the policyholder's expense from dealing in industrial-insurance policies, eliminates legal complications and the necessity of examining title, and reduces the possibility of speculative insurance. In at least two large companies assignments are permitted provided that the assignee is a national bank, state bank, or trust company. This is in accordance with the requirements

² See Appendix F for specimen industrial policy.

of the insurance law of New York for policies issued in that state.

Because of the small amounts involved and the expense of handling, industrial policies seldom provide for loan values.

Payment of Premium at the Company's Office. Although receiving of premiums by an agent of the company at the home of the insured is a distinctive feature of this class of business, this method of receipt is not specifically provided for in the policy.

The policy contracts of a number of companies, including the largest ones, give the insured the option of paying weekly premiums direct to the company instead of to an agent, a refund of 10 per cent being made to policyholders making payment in this way, provided that they do so for a stated minimum period. In this way the additional cost of industrial insurance may be substantially reduced.

Reinstatement. The conditions under which the policy may be revived are liberal. As a rule, policies provide that they may be reinstated if payment of premiums has not been discontinued for more than 1 or 2 years, if the arrears are paid, and if satisfactory evidence of insurability is furnished; in such cases interest on the premiums in arrears is not charged. In practice, reinstatements are freely permitted when the premiums are in arrears for longer periods, although in such cases the company may charge interest on the premiums in arrears. In the larger companies revivals are sometimes allowed without payment in cash of arrears of premium, the amount due becoming a lien against the policy and bearing interest until paid.

Limitation on Liability. Although one large company attaches a copy of the application to the industrial policy, thus making the application part of the contract, most companies do not follow this practice. In order to provide a safeguard against improper or fraudulent claims, the policies of these latter companies contain a statement of the conditions under which they may be declared void. The clause contained in the policies of one large company provides that the period during which the policy may be declared void extends for only 1 year if the insured is alive at the end of that period. Within this period the policy is voidable if the insured has within 2 years prior to the date of issue received

medical or surgical treatment for a serious condition, unless information regarding such matters is disclosed in the application for insurance so that the policy can be suitably endorsed. If the policy does not take effect or is voided, the company will return the premiums paid.

After 1 or 2 years from date of issue, however, it is usually provided that the contract is incontestable except for nonpayment of premiums. The policies of many companies (including the large companies) contain no limitation on liability in event of suicide.

Participation in Surplus Earnings. Where industrial policies are issued on a participating basis, as they are in the large companies, it is not practicable to allow various alternative dividend options such as are required by law in the case of ordinary policies. To do so would introduce disproportionate expense. Any dividends allotted, while they may be large in comparison with the premium, are necessarily of small amount and are usually in the form of an addition to the amount of insurance or of a number of weeks' premium credit.

Nonforfeiture Privileges. Both industrial and ordinary policies usually provide that, if premium payments are discontinued after a specified period, the company will grant a paid-up policy of reduced amount, extended term insurance of the full amount, or a cash-surrender value. One of the first two alternatives is specified as automatic if no election is made by the policyholder.

Under recently issued industrial policies in the larger companies, a nonforfeiture benefit is available automatically after payment of premiums for 26 weeks, and in one of these companies after even shorter durations. Only a very few companies issue ordinary policies in which a nonforfeiture benefit is available so early.

When the nonforfeiture value is small, as in industrial policies on which only a few small premiums have been paid, the added expense of granting it in cash rather than as paid-up insurance is disproportionate. Hence, in companies which grant nonforfeiture benefits after premiums have been paid only a few months, this benefit is available at first only in the form of extended term

insurance. However, if premiums have been paid several years, other forms of nonforfeiture benefits are granted.

Cash-surrender values in industrial policies currently issued by the large companies and by some others are guaranteed after 3 years' premiums have been paid. Most other industrial policies provide such values after 5 years' premiums.

Benefits in Event of Loss of Eyesight or Limbs. Benefits in event of loss of eyesight or limbs have long been common in industrial policies. The usual disability benefits which may be purchased for an additional premium in connection with ordinary policies would be impracticable in industrial policies for small amounts because of the expense involved. A typical industrial benefit provides that, if the insured loses both hands or both feet or the entire sight of both eyes, an amount equal to the face amount of insurance is payable and the policy is continued for its full amount with premiums waived. In event of loss of one hand or one foot, half the face amount is paid in cash and the full amount continued with premiums waived. No specific extra premium is charged for these extra benefits, the cost of which is included in the regular premium.

Another distinguishing feature of the disability benefits in most industrial policies is that the coverage is continued throughout life instead of ceasing at a specified age. The claim rate is heaviest at the higher ages, the great majority of these claims arising from blindness.

Accidental-death Benefits. Since about the beginning of 1929, many companies have included in their industrial policies, without specific extra charge, a provision for an additional accidental-death benefit, similar to the double-indemnity benefit available to ordinary policyholders. In the leading companies, at least, the benefit was made retroactive as to existing policies. The terms of such a provision can be seen from the specimen industrial policy in Appendix F. The additional accidental-death benefit will be reduced by any amount paid under the provision for benefit in event of loss of eyesight or limbs as a result of the same injuries.

Combined Life, Health, and Accident Policies. Some companies operating mainly in the Southern states issue health-and-accident policies that include a small amount of life insurance. The provisions relating to the life insurance are in general similar to those of regular industrial policies, while the health-and-accident insurance is usually cancelable. There are several millions of such policies in force, a large proportion of which are on Negro lives.

Intermediate Policies. In order to enable wage earners to obtain insurance at a lower cost than weekly-premium industrial insurance, *intermediate* policies were introduced in the 1890's. These were ordinary policies in amounts of \$500 or more and with provision for quarterly or less frequent premiums. The term "intermediate" has no generally applicable definition or distinctive characteristics at the present time. In one of the three largest companies currently issued policies for \$3,000 or less with premiums received monthly on the debit system (as for weekly-premium policies) are classed as intermediate-ordinary policies. In the other two companies such policies are classed as industrial when the amounts are less than \$1,000.

A rate of premium more favorable than for smaller amounts of insurance is possible where the amount is not less than \$500. Many insurance companies will also issue ordinary policies for as low an amount as \$500, subject to quarterly premiums. In a few companies, the term "intermediate" is also used to denote policies for amounts of \$1,000 or more issued on persons who are not eligible for ordinary insurance at standard rates because of the greater mortality inherent in their occupation, physical condition, etc.

Administration. The industrial policyholder receives, in addition to his policy, a premium-receipt book which is signed by the agent when a premium is received. One book contains particulars of the weekly-premium policies on all members of the family. Each agent receives premiums within a geographical area known as a *debit*, which may be a small community or a few blocks in a large city. The whole territory in which the company operates is divided into *districts*, each in charge of a manager or

superintendent. The agent maintains a *debit book* and submits a weekly (or monthly) report of premium receipts. No detailed accounting as to premium payments on individual policies is maintained in either the home office or the district office. This system results in important economies.

Under the traditional basis of compensation, which, however, has not been used by the larger companies for some years, the agent's remuneration was based on the amount of premiums collected together with a commission on the net increase, *i.e.*, the amount of new premiums less the premiums on lapsed policies. The commission payable on the net increase was usually a certain number of times such increase. This system encouraged the conservation of business, a vital feature from the company's as well as the policyholder's point of view, but had certain serious disadvantages.

In more recent years (largely as a result of the disturbance in agents' earnings during the depression of the early 1930's) the larger companies have adopted new principles of determining agents' compensation. The new contract provides for three separate types of compensation. The principal item is a collection commission based on the amount of premiums received by the agent. A first-year commission is paid on new business. In order to promote the conservation of business, an additional commission is paid, based on the relative success of the agent in conserving the business under his care and depending on the relative lapse rate of his business as compared with that of the whole company.

In addition to receiving premiums and otherwise servicing existing industrial policies, securing new policies, preventing lapses, and reinstating lapsed business, the agent may write ordinary, group, and accident-and-health business or annuities and may add considerably to his income by such writing.

Districts are arranged so as to economize the efforts of agents. Districts in large industrial centers are the best, since a comparatively large number of policyholders is contained in a small area. The expense of house-to-house calls to receive premiums is therefore minimized.

In each district there are one or more assistant managers or superintendents who assist in the selection of agents and in their instruction in such matters as canvassing for new business, preventing lapses, and attending to death claims. They also inspect the agents' books and personally aid in the securing of new business and in keeping business in force. Their remuneration is generally by salary, with a bonus which depends on such items as the amount of net new business secured and the relative persistency of the business under their supervision. In one large company managers and assistant managers are compensated in part on the basis of a percentage of first-year and conservation commissions paid to agents in the district.

Welfare Service. Some companies now render to their policyholders valuable service by health-conservation work, including dissemination of information on health topics through special literature, advertising, etc., and, at present, by the provision of a visiting-nurse service. In addition, at least one company has had a very active part, through both original research and general cooperation, in public-health work throughout the United States and Canada. The work done along these lines has accomplished a great deal in reducing the death rate among industrial policyholders.

Economic Importance and Growth. The immense economic importance of industrial insurance may be seen from the fact that at the end of 1949 the estimated amount in force in the United States and Canada was 33 billion dollars. Apart from the fraternal orders, some of which are still on an unsound financial basis, there is no other way by which many of the wage-earning classes throughout the country may *themselves* secure life insurance in an amount they can afford and on terms which are suitable to their circumstances.

Industrial life insurance was introduced into this country in 1875, when the Prudential Friendly Society (now the Prudential Insurance Company of America) issued its first policy. Since that time the business has steadily progressed. The amount of business in force more than doubled every decade through 1930. During the depression in the 1930's, however, industrial insur-

ance, like other branches, suffered some loss, but there has since been a marked expansion in the business. The rate of increase in the volume of industrial insurance may be affected in the future by the increased issue of monthly-premium ordinary insurance and of group insurance. The table below shows the volume of industrial insurance in force at decennial intervals.³

INDUSTRIAL LIFE INSURANCE IN FORCE IN THE UNITED STATES AND CANADA
(In millions of dollars)

At End of	
1890	\$ 430
1900	1,474
1910	3,202
1920	7,227
1930	18,449
1940	21,675
1949 (est.)	33,000

At the end of 1949 more than 50 million persons in the United States and Canada were insured under industrial policies. Benefit payments, excluding dividends and premium refunds, amount to more than 500 million dollars annually for death claims, matured endowments, disability benefits, and cash values.

FRATERNAL ASSOCIATIONS

Besides the industrial insurance companies, the wage-earning classes look to some extent for their insurance protection to the fraternal orders and, to a smaller extent, to miscellaneous organizations coming under the general description of assessment associations. The situation of nearly all the fraternal orders and some of the assessment associations has been for some years undergoing a radical change for the better. Most of these societies organized their insurance business on unsound lines. The growth of fraternal and assessment insurance began at a time (about 1880) when the level-premium plan with its accumulation of reserve funds had been discredited in the public mind because of the frequent failures of "old-line" companies.

³ Insurance Year Books of the Spectator Company and Annual Reports of the Superintendent of Insurance of the Province of Quebec.

Practically all these orders and societies began with either an assessment plan or a step-rate plan of insurance, but most of them have long since passed from these faulty and inadequate plans to the level-premium plan. At the present time practically every fraternal order of importance and many of the so-called "assessment" associations are operating on the same basis as the regular life insurance companies, charging adequate premiums and maintaining adequate reserves.

A fraternal order differs, however, in many respects from a life insurance company. Moreover, they are not subject, in regard to their insurance business, to the same laws as the companies but are usually operated under special regulations. This is partly because of the radically different nature of the contract between the member and the order under which the order has, invariably, the right of unlimited assessment. In fact, there is no insurance contract in the usual sense of the word, and the member receives no insurance policy but only a certificate of membership, the particulars of the insurance being set forth in the bylaws of the order. In these circumstances the basis of solvency is quite different from what it is in a regular company.

The gradual improvement in the financial status of the fraternal orders has been chiefly due to the National Fraternal Congress of America, the national association of the fraternal orders, and its forerunners, the National Fraternal Congress and the Associated Fraternities of America. The first steps toward a financially sound scheme of operation took place in 1898, when the National Fraternal Congress Table of Mortality was published. This was a table based on the experience of the orders and other material and was intended to include the element of lapse, the idea being that the mortality tables used by the insurance companies were unnecessarily severe and that their use assumed that all members were insured until death. The new table was therefore assumed to be a safe basis provided that no surrender values were paid.

Regarding this table an authoritative writer⁴ says:

⁴ S. H. Pipe, "History of Fraternal Insurance," *Record of the American Institute of Actuaries*, Vol. 16, p. 29.

When we turn from the method of its construction to its practical effect upon the education and progress of fraternal societies, its defects are forgotten. It probably had a greater educational result than any other mortality table. Let us consider the mental attitude of the fraternalists at that time. They had taught their members that the large reserves of the life insurance companies were unnecessary and it placed them in a difficult position to acknowledge that level premiums required the accumulation of reserves. Any mortality table connected with the operations of life insurance companies was barred as a minimum-rate table and the fraternal societies had no tabulated data of their own at that time of much value. The maneuvers used in the construction of their own table had the appearance of a pseudo-actuarial setting to produce a desired result. But in its accomplishments the result was worth while. The fraternal societies had a mortality table of their own, and with it they proceeded with a great faith and a still greater courage to reform their system.

The Uniform Bill approved by the National Fraternal Congress in 1892 had not recognized the need for the net-level-premium basis, but the reserve principle was recognized by an amendment of 1897. In 1900 the "Force Bill," which *required* all fraternal *thereafter organized* to adopt adequate rates on the basis of the National Fraternal Congress Table, was adopted by the Congress. The next development along the lines of financial or actuarial solvency was the adoption by the National Fraternal Congress and the Associated Fraternities in 1910 of the "Mobile Bill." This bill, which became law in several states, required adequate level-premium rates for all new business and a certain degree of progress toward complete actuarial solvency in each 3-year period. This bill was in turn superseded by the New York Conference Bill, which requires minimum rates on the basis of the National Fraternal Congress Table with 4 per cent interest, while, if the society allows surrender values, the minimum basis of valuation is the American Experience Table. The matter of minimum rates and reserves is perhaps too technical to be discussed in this volume, and the foregoing outline of legislative activities is given as indicating the gradual realization that a permanent life-insurance business cannot be conducted except on the level-premium basis with adequate rates and reserves.

More recent proposals of the Congress include provision for the entire financial separation of business at inadequate rates and prohibit the writing of any new business at such rates.

The business of the fraternal has been considerably affected by the introduction of group insurance. The authority who has already been quoted says:

Group insurance is probably the greatest blow ever received by fraternal societies. It has supplied the need for cheap term protection. In search of business the fraternal are being forced more and more to adopt the benefits granted by life insurance companies. They are criticized for so doing and are warned of the penalties they may expect in the shape of taxation. They are told to keep to their original simple forms of insurance, but on adequate rates, and find their prospects taken from them under these simple plans, by the coverage given by the group policies of the life insurance companies.

In recent years many fraternal have done a large juvenile business. Several of these societies would otherwise have shown progressive decreases in total business.

The insurance business of the fraternal is approximating more and more nearly that of the regular companies. The transition is not without difficulties and is not being made without a great deal of opposition from members of long standing. Readjustment of rates inevitably appears harsh and even unjust to those who have paid—on an inadequate scale—for many years, and any plan of adjustment has to be such as can be upheld on legal as well as actuarial grounds. An important principle has, however, been established, the right of a fraternal order (or assessment society) to establish different classes, or "series," of members and thus to separate the sheep from the goats, financially speaking. This is one way in which the transition to solvency can gradually be accomplished.

Through the medium of the fraternal, life insurance in small amounts could be made possible for the wage-earning classes and, by the elimination of the services of the agent, at a cost below the rates charged for industrial insurance, the only other

available method by which most of such persons can obtain permanent insurance.

Assessment Associations. The present position of the assessment associations is by no means so satisfactory or so promising as that of the fraternal. These associations operate on many different plans, and practically none of them sets up any actuarial reserve as such, although the rates are now usually on a level-premium scale and not on a step-rate or assessment basis. The larger associations maintain a large "surplus," which is available, so far as it goes, to meet future liabilities; but no reserve calculations are made. In some cases the policy contracts are misleading, and the right of the association to charge additional assessments, if necessary, is often not known to the insured, since the clause providing for such a charge usually occupies an inconspicuous place in the policy. Under the laws of certain states, adequate premiums and reserves are required in respect of all new members of existing assessment associations, and a separation of assets is called for. These associations, which are for the most part commercial associations organized for profit, supply no life-insurance need which is not very much better supplied by the regular companies or the fraternal.

CANADA

Fraternal and Assessment Associations. Twenty-five years ago the Dominion Parliament of Canada and the Legislative Assembly of Ontario (followed later by several other provinces) enacted legislation requiring all fraternal societies to include in their annual statements to the insurance departments a valuation of each benefit fund made by a properly qualified actuary. Any deficiency disclosed by the valuation was required to be made good, within a period not exceeding 4 years, by an increase of rate or a reduction of benefit. These requirements were rigorously enforced, with the result that fraternal insurance in Canada is very largely on a sound basis.

The development of fraternal societies in Canada has been similar to that in the United States. The Canadian societies were incorporated by Dominion or provincial charter. Three

or four of the Dominion societies have been active in the United States for many years. All the Dominion societies and all the provincial societies (except in British Columbia and Saskatchewan) effected any necessary adjustments in their plans of operation many years ago and are now operating on sound principles.

Assessment associations, or "clubs" as they are popularly called, still exist in British Columbia and Saskatchewan. Most of them were organized about 25 years ago under provincial charter. They usually operate on the basis of collecting a dollar every time a member dies and paying the proceeds to the beneficiaries. No new club has been permitted to be organized in British Columbia since 1926 or in Saskatchewan since 1933. These clubs operate outside the insurance laws, from which they are expressly exempted.

CHAPTER XVII

SAVINGS-BANK LIFE INSURANCE

Origin and Purpose. In 1907 a law was passed by the legislature of Massachusetts empowering mutual savings banks in that state to establish "insurance departments" and to engage in the business of selling life insurance and annuities to residents or those working in the state. Similar laws were enacted in the state of New York in 1938 and in the state of Connecticut in 1941.

The purpose of these laws is to provide a system of low-cost, over-the-counter insurance mainly for the benefit of those who purchase insurance in small amounts. More particularly, the original purpose was to provide a substitute for industrial insurance for the benefit of the low-income classes, which would enable them to purchase small amounts of insurance at lower cost. The reduction in cost under the savings-bank system depends primarily on the elimination of the sales costs incurred by the regular companies, chiefly in the form of commissions to soliciting agents. Some of the proponents of the system apparently assume that such costs represent a total loss to policyholders, which is not by any means the case, and some of the literature issued by those charged with the operation of the system has tended to create this erroneous impression. Further reference will be made to this point later.

The Massachusetts law was the result of proposals made by Louis D. Brandeis (formerly an Associate Justice of the United States Supreme Court), who was, in 1905, acting as counsel for a Policyholders' Protective Committee which had been formed as a result of the insurance investigation then under way in New York. The testimony taken in that investigation had emphasized the excessive amounts spent by some of the companies at that time for commissions on new business and had also brought out the relatively high cost of industrial insurance due to the system

of collecting premiums weekly at the home of the policyholder as well as to the fact that industrial insurance covered mainly low-income groups subject to relatively high mortality rates and was issued generally without medical examination.

The original intention to provide a cheap and efficient substitute for *industrial* insurance is indicated in an article written by Brandeis in 1906, in which he said

[The] sacrifice incident to the present industrial insurance system [could] be avoided only by providing an institution for insurance which would recognize that its function is not to induce working people to take insurance regardless of whether they really want it . . . but rather to supply insurance upon proper terms to those who do want it. . . .

Further reference is made in the same article to the "great need of life insurance for workingmen." The limit placed on the amount of insurance obtainable also indicates the intention of supplying this need. Until 1915, when the limit of insurance on one person in each bank was increased to \$1,000, the maximum was \$500. Again, in 1915, the legislature appropriated funds to make known "to those in need of industrial insurance the advantages offered by the . . . savings banks."

The laws of all three states limit the total amount of insurance that may be obtained by an individual from each bank and, in New York and Connecticut, also the total obtainable from all banks. Policies are issued for amounts as small as \$250, which is lower than is generally issued by the companies as ordinary insurance.

None of the savings-bank systems has ever transacted industrial insurance as that term is usually understood, *viz.*, insurance of small amounts, issued generally without medical examination, and paid for by weekly premiums collected at the homes of policyholders. The Massachusetts banks did originally issue some small policies with monthly premiums, which were called "industrial" policies. Under the savings-bank system a medical examination is required in all cases, except for insurance on the lives of children. Premiums must be paid monthly or at less frequent intervals and must be paid at or sent to one of the banks,

or may be paid automatically by deduction from a savings-bank account. Industrial policies include certain disability and accidental-death benefits not included in policies issued by the savings banks. Some of the industrial companies also furnish certain welfare services to policyholders. These and other facts are important in any comparison of the cost of savings-bank insurance with that of industrial insurance. It should be understood, however, that there never was any intention on the part of the banks to transact industrial insurance on the same basis as the companies, but to *substitute* for it a system which would eliminate much of the expense necessarily incident to industrial insurance. The savings-bank system undoubtedly provides insurance of small amounts at much lower cost than under industrial insurance, but it does not provide the same service or cover the same classes of people.

In view of the highly technical character of the life-insurance business and the very limited scope of the possible insurance operations of individual savings banks, it would be quite impractical for the individual banks to conduct their life-insurance business entirely as independent units. In general, they act as agencies of a central organization which corresponds somewhat to the home office of a life insurance company. Each bank, however, issues its own policy contracts, maintains its separate funds, and makes its own investments. Some of the reasons which were originally advanced for the belief that savings banks could appropriately and advantageously undertake the functions of life insurance companies were as follows:

- (1) Trustees of savings banks are trained to consider the investment of the savings of persons of small means as a trust to be conducted more from a beneficent than from a commercial standpoint.
- (2) They have been accustomed to practice strict economy.
- (3) The operation of the life-insurance business as an adjunct to the banking business would result in considerable saving in expense because the same offices, officials, and clerical force would be available.

- (4) The large number of existing depositors in the banks would create an immediate and sufficient source of life-insurance business.
- (5) House-to-house collection of premiums could be dispensed with.

Some of these reasons would seem to apply equally to other forms of business. Only a minority of the mutual savings banks have taken advantage of the power to establish insurance departments. In Massachusetts, where the system has been in operation for over 40 years, there are, as of Dec. 31, 1949, 34 banks issuing policies and maintaining insurance departments. Over 100 others, however, act as agencies for the issuing banks. In New York, after 11 years of operation, there are about 40 issuing banks in the system. In Connecticut, after 8 years of operation, there are 8 issuing banks. Size of bank and location affect these figures, apart from any other considerations.

The advantages to the bank of opening an insurance department may consist in broadening of their services, greater encouragement of voluntary thrift, and spreading of overhead expense through enlarged operations. The main advantage was stated by a former insurance commissioner of Massachusetts,¹ as follows:

Savings banks and their trustees, as such, in my judgment, are not interested in engaging in the life-insurance business except for one reason, and that reason is a perfectly sound one, so far as the savings banks are concerned, if they desire to complicate their business to that extent. That reason is based upon the thought and belief that in obtaining policyholders in their life-insurance departments, they thereby encourage people to become depositors in the savings departments of the savings banks. This thought is similar to that which exists in connection with Christmas clubs, school deposits, and other means of inducing people to open accounts, and the same reasoning applies to those savings banks which have no savings-bank insurance departments, but who are acting as agents for collection of premiums.

¹ Wesley E. Monk, "Observations Relative to Savings Bank Life Insurance," p. 3, testimony before the joint legislative committee on insurance, Feb. 12, 1930.

Largely through the activities of the Savings Bank Life Insurance Association (founded by Brandeis) bills for the establishment of savings-bank life insurance have been introduced in many other states, but have not been enacted. Such bills have, in the past, generally been opposed by the life insurance companies, mainly on the ground that the proposed schemes were discriminatory in that the insurance departments of the banks were, under the proposed laws, not made subject to the same conditions and requirements as the companies. They were also, quite naturally, opposed by the agents of the companies because of the threat to their means of livelihood. In some instances these bills have also been actively opposed by some of the banks, which have on the whole been slow in their acceptance of the idea. So far as the companies and their agents are concerned the general feeling probably now is that, quite apart from the merits of the question, the scope of the insurance operations of the savings banks is not such as to interfere significantly with their own operations. There is now very little active interest in the subject on the part of the regular companies.

ORGANIZATION AND ADMINISTRATION

The Massachusetts System. *Division of Savings Bank Life Insurance.* In Massachusetts the general supervision and control of the savings-bank-life-insurance system are in the hands of the Division of Savings Bank Life Insurance, which is one of the three divisions of the Department of Banking and Insurance, the other two being the Division of Banks and the Division of Insurance. The work of the Division of Savings Bank Life Insurance is directly carried on by a salaried Deputy Commissioner of Savings Bank Life Insurance.

The office of the Division corresponds in a general way to the home office of a life insurance company of which the individual "insurance departments" of the banks are the branches or agencies. The Division employs a state actuary and a state medical director, who perform effectually all the functions of the corresponding officers of a life insurance company. The law forbids the banks to employ soliciting agents, but in 1915 the Division

began to employ "instructors," whose duties were to "educate workers" throughout the state in the advantages of savings-bank life insurance. Since 1938 all advertising and promotional activities have been conducted by the Savings Bank Life Insurance Council, an association of the issuing banks, and by the banks themselves. Formerly many of these activities were conducted by the Division of Savings Bank Life Insurance, which now confines itself to supervision and administration.

Savings Bank Life Insurance Council. In 1947 the Savings Bank Life Insurance Council was incorporated by a special act of the state legislature. Its functions are to furnish the insurance banks and their policyholders such services as are necessary for the efficient operation of the business. Since 1947 the Council has gradually been assuming duties formerly performed by the state and now undertakes the formulation of general policies for the system, the compilation of statistics, the instruction and supervision of agencies, and other coordinating activities.

General Insurance Guaranty Fund. A third "central organization" in the Massachusetts system is the General Insurance Guaranty Fund. This Fund is an incorporated body of trustees appointed by the Governor. Its function is to maintain and administer the joint contingency fund formed by the contributions which are required by law to be made to the Fund by the individual insuring banks. Under the law, the banks pay into the Fund 4 per cent of premiums collected until the Fund exceeds either \$100,000 or 5 per cent of the aggregate policy reserves of all the banks, whichever is larger. Under this rule no contributions to the Fund were required from 1921 to 1942. At present, contributions are being collected at the rate of 1 per cent of premiums. At the end of 1949, the amount in the Guaranty Fund was about \$700,000, or roughly 1 per cent of total policy reserves. In addition the banks had individual surplus funds amounting, in the aggregate, to about \$6,000,000 or about 9 per cent of total policy reserves. These individual surplus funds are available only for the protection of the policyholders of the individual banks holding them. Such individual surpluses are limited by law to 10 per cent of policy reserves, which is relatively low for

such small insurance units, but, with the availability of the Guaranty Fund, there is no reason to question the general security of the system.

Under the law the assets of the insurance department of a bank are applicable only to the liabilities of that department, and, similarly, the assets of the banking department are not available for satisfaction of any claims on the insurance department. The security of the policyholders is represented by the assets of the insurance department of the bank in which they are insured, together with the guarantee of the General Insurance Guaranty Fund.

Payment of Expenses. Prior to 1927 (i.e., for the first 20 years) the entire expense of the services furnished by the office of the Division of Savings Bank Life Insurance was paid by the state, i.e., by general taxation, nothing being contributed by the insurance departments of the banks. In 1927 the legislature enacted a law requiring the banks to pay the cost of printing and stationery furnished by the Division, and in 1929 a further measure was enacted under which the banks gradually assumed the responsibility for all operating expenses of the Division. Under this law the banks have paid all such expenses since 1934. The fact that during the first 26 years of the system the banks enjoyed the advantage of freedom, in whole or part, from many of the principal expenses incident to the operation of a life-insurance business is a factor to be considered in any cost comparisons based on past experience.

The expenses of operation of each bank are required by law to be apportioned by the trustees equitably between the banking department and the insurance department. Critics of the system have claimed that the share of total expenses allocated to the insurance department has frequently been nominal and inadequate. However, a careful investigation of this subject showed that, on the whole, expenses had been equitably distributed.²

² "Operation of Savings-bank Life Insurance in Massachusetts and New York," *Bulletin* 688, Bureau of Labor Statistics, U.S. Department of Labor (1941).

Unification of Mortality. A further important element in the security of the individual banks is the system of "unification of mortality." Under this system, any insurance department which in any year has a lower ratio of actual to expected death claims than the average ratio for all banks combined pays into the General Insurance Guaranty Fund an amount computed by the state actuary, and the amounts so obtained are apportioned to those insurance departments having a ratio higher than the average. The fluctuations in the mortality experience which are to be expected in such small units are thus distributed over the whole group. In this calculation allowance is made for the proportions of new and old business in force.

Policy Contracts. The insurance departments of the banks issue all the principal standard forms of insurance policies and annuities. Premiums may be paid annually, semiannually, quarterly, or monthly, but not weekly, and may be paid to any bank operating an insurance department or acting as a collecting agency for the system, or to various employers' agencies, credit unions, etc. There are over 300 such agencies. All these, except employers' agencies, receive a collection fee of 3 per cent for transmitting premiums to the bank entitled to receive them. Weekly payment of premiums can be accomplished effectively by making deposits into a savings account from which premiums are deducted monthly or less frequently.

The policies contain the usual provisions found in the contracts of life insurance companies, including optional modes of settlement. The provisions as to nonforfeiture are more liberal than in the companies, a cash value of the full reserve being allowed after 6 months and loans after 1 year. This is possible because of the elimination of the relatively high first-year commission and other agency expenses incurred by the companies. These provisions virtually eliminate "lapse" where that term is used to denote a termination before the contract has acquired a cash value. Comparisons of lapse rates as between the savings banks and the companies are therefore, to some extent, misleading.

Policies have not been issued with either disability (waiver-of-premium or waiver-and-income) or double-indemnity benefits.

The issue of policies with waiver-of-premium disability benefits has been under consideration in Massachusetts and New York.

A 5-year-term policy is issued (by the insurance banks of all three states) which may be renewed without medical examination for successive periods with final termination at age sixty-five. This is a type of contract which (for reasons which have been explained in Chap. III) is issued by very few of the regular companies.

Premium rates are uniform for all banks in the state and are, in general, comparable to the lowest rates for participating policies charged by any of the mutual companies.

Limit of Insurance. The largest amount of insurance which may be obtained by one person from any one bank is \$1,000. Under the law it would be possible to obtain that amount from *each* bank, i.e., any qualified person could apply for \$34,000 of savings-bank insurance (since there are 34 "insurance banks"). However, in 1938, for underwriting reasons, the banks adopted a voluntary total limit of \$25,000. During the war this limit was reduced to \$10,000, which was the limit until 1945 when the \$25,000 limit was restored. As noted later, this is a much larger amount of insurance than can be obtained under either the New York or Connecticut systems by an individual applicant. Where it is desired to buy more than \$1,000 of insurance, it is not necessary to go to more than one bank, since any bank can handle the whole application, distributing the total among the different banks as desired. This practice emphasizes the character of the banks as "agencies" of a central "company" so far as the routine of operation is concerned.

Surplus and Dividends. Each bank must set aside 20 to 75 per cent of its profits until it has accumulated a surplus of \$20,000. Thereafter, except by the approval of the state actuary, at least 85 per cent of the profits must be distributed in dividends. The maximum surplus permitted, 10 per cent of the reserve, may be increased with the approval of the state actuary.

Dividends are usually paid on a uniform scale by all banks, although from time to time some banks pay more or less than the "basic scale" fixed by the state actuary. "Unification of

mortality" eliminates differences from that source; but since the expense and interest rates are not "unified," differences in surplus earnings occur due to variations in these rates and should (theoretically, at least) be reflected in different dividend scales. Here, again, the similarity of the system to the operation of a single company is evidenced.

Regulation and Taxation. The insurance departments of the banks are subject to supervision both by the Commissioner of Banks and by the Commissioner of Insurance. Their funds must be invested in the same manner as deposits in the banking department except that they may make policy loans.

Originally the insurance funds were taxed on the same basis as savings-bank deposits. This resulted in slightly less total taxes than would have been paid on the basis applicable to life insurance companies. Since 1939, taxation by the state has been on the same basis as that of the companies.

New York. The New York Savings-bank Life Insurance Law was enacted by the legislature in 1938, and the system was put into operation Jan. 1, 1939.

Administration. The original law provided for a Division of Savings Bank Life Insurance within the insurance department with administrative power vested in the Superintendent of Insurance, whereas in Massachusetts the administrative power was given to the trustees of the General Insurance Guaranty Fund, the Division of Savings Bank Life Insurance being separate from the insurance and banking divisions. In 1940 the New York law was changed, and administrative powers were transferred from the Superintendent of Insurance to the trustees of the Savings Banks Life Insurance Fund (formerly the General Insurance Guaranty Fund). This Fund, under the amended law, is a body corporate under the banking department and is in the same position, as to supervision by the insurance department, as a life insurance company.

The Savings Banks Life Insurance Fund in New York combines in one central organization the functions performed in Massachusetts by three separate organizations, *viz.*, Division of Savings Bank Life Insurance (general administration); Savings

Bank Life Insurance Council (promotional activities, general policy making, etc.) ; and the **General Insurance Guaranty Fund** (accumulation of joint contingency fund).

Contributions to the Guaranty Fund. The New York law provides for contributions of 2 to 4 per cent of premium income until investments in the Fund are retired and thereafter not more than 1 per cent except with the approval of the Superintendent of Banks. When the fund exceeds \$500,000 or when the fund plus individual surpluses exceeds 10 per cent of total reserves, contributions cease except as required by the Superintendent of Banks. The trustees may, with the approval of the Superintendent, discontinue contributions when the fund reaches \$200,000.

Limitation of Insurance. Under the New York law the limit of insurance, whether in one bank or in a number of banks, was originally \$3,000 but was increased to \$5,000 in 1948. The minimum policy is (as in Massachusetts and Connecticut) \$250.

Policy Forms. The New York law specifies that every policy issued shall contain, on its face, the following statement: "The only assets of this bank which are liable for and applicable to the payment and satisfaction of the liabilities, obligations and expenses of the insurance department of this bank are the assets of the insurance department of this bank." There is no such requirement in the Massachusetts law, but policies issued there contain this statement: "The assets of the Insurance Department of the Bank and of the General Insurance Guaranty Fund, as provided for by statute, are liable for any obligations incurred by the bank on account of this policy." It will be noted that this statement indicates that certain funds "are liable," not (as is the case) that these funds alone are liable.

Connecticut. The Connecticut law was enacted in 1941. The system there is virtually identical in all essential respects with that in New York, being operated by one central organization called (as in New York) the Savings Banks Life Insurance Fund.

In Connecticut the limit of insurance obtainable by one applicant (in one or more than one bank) is \$3,000, as compared

with \$5,000 in New York and (currently) \$25,000 (in all banks) in Massachusetts.

Extent and Growth. As of Dec. 31, 1949, the total volume of savings-bank life insurance in force was about \$533,000,000. The greater part of this total (\$365,000,000) was in Massachusetts where the system was in operation for 30 years before the New York law was passed. The amount in force in New York banks (\$156,000,000) at the end of 1949 was, however, more than three times what it was 5 years earlier and is increasing rapidly with more banks coming into the system each year. In Connecticut, growth has been relatively slow, with a total amount of insurance in force after 8 years' operation of about \$12,500,000.

New issues amount currently to about \$28,000,000 in Massachusetts, \$24,000,000 in New York, and less than \$2,000,000 in Connecticut, or a total of about \$54,000,000 in all three states.

Admitted assets at Dec. 31, 1949, totaled \$96,800,000 (of which \$79,200,000 were in Massachusetts, \$16,500,000 in New York and \$1,100,000 in Connecticut) having approximately doubled in a 6-year period.

These figures indicate that, while the business and assets of the savings-bank-life-insurance system are substantial, they are quite insignificant in comparison with aggregate figures for the regular companies which, at the end of 1949, had total assets of more than 50 billion dollars, insurance in force of more than 200 billion dollars, and, currently, new issues of about 23 billion dollars.³ Even allowing for a substantial extension and growth of savings-bank insurance it is not likely ever to form more than a very small fraction of the total life-insurance business.

Comparative Cost of Savings-bank Life Insurance. Originally the insurance departments of the banks in Massachusetts enjoyed advantages as to expenses and taxes not shared by the regular companies. This naturally resulted in reducing the cost of insurance, apart from the savings due to the elimination of agents' commissions and other sales costs. These advantages

³ These figures include only United States companies. See *Life Insurance Fact Book*, Institute of Life Insurance, 1950.

have now been removed. The cost of insurance under the savings-bank system has been lower than in the companies, and because of the elimination of agents' commissions and other new-business expenses incurred by the companies in rendering substantial and valuable services to policyholders, the cost, in future, may continue to be lower. However, for the reasons discussed below, these differences in cost may be less than they have been in the past.

Apart from capital gains and losses, there are three elements in the cost of insurance: the rates of mortality, of interest, and of expense. According to the advocates of the savings-bank system, a more favorable experience in at least two of these elements, *viz.*, mortality and expense, than has been enjoyed by the companies explains the difference in cost which has existed in the past.

Mortality. The mortality experience to date under the Massachusetts system (the only one of the three state systems which has, as yet, a relatively mature experience) has been very favorable. A proper comparison cannot be made, however, with the experience in the companies on the basis of the ratio of aggregate actual to expected mortality since this ratio would, other things being equal, naturally be much lower in the banks up to the present time because of (1) the greater proportion of recently selected lives and (2) the greater proportion of young lives insured in the banks as compared with the companies. Some advantage with respect to the mortality rate may result from the restriction of business to a healthier-than-average section of the country and from the absence of large policies. Against these factors is the fact that business is transacted chiefly among the low-income groups and the greater degree of self-selection among those insured in the banks. Apart from the small differences likely to be due to such causes there is no reason to suppose that selection will be better or more rigorous than in the companies.

Some information in regard to the ultimate mortality experience under the savings-bank system is given in a report published in the *Convention Bulletin* of the Forty-fifth Annual Meeting of

the Savings Bank Association of the State of New York. In that report the ultimate mortality rates under the Massachusetts system are compared with similar rates based on the recent experience of some of the principal companies. Up to about age thirty or thirty-five there is very little difference, but at the higher ages the savings-bank mortality rate is increasingly lower than in the companies.

An important point in regard to the relation between mortality experience and cost is that in the companies the mortality savings in the early years of insurance are offset by the higher rate of initial expense. These savings or, at least, a large part thereof are therefore not available, as in the banks, to reduce the cost of insurance in the early years. Hence, for the first few years of insurance the mortality factor of the dividend is likely to be, and in fact should be, higher in the banks than in the companies. The results over a period of years will depend on the comparative ultimate experience.

Interest. Since the savings banks are more closely restricted with respect to investments than the companies, it would be expected that the latter would be able to earn a somewhat higher rate of interest. Actually, the banks have earned about the same net rate as the average for the companies.

There seems to be no reason to suppose that the banks will be able to earn in future a higher rate of interest than the companies, so that little, if any, advantage to the former is to be expected from that source. In fact, the opposite may be true.

Expense. It is upon a low rate of expense, due largely to the elimination of soliciting agents rather than to a low rate of mortality or a high rate of interest, that the difference in cost will chiefly depend.

An important fact which is likely to be overlooked in a discussion of relative expense is that the elimination of the agent involves the elimination of his services. It is not to be presumed that the elimination of the agent is all gain. On the contrary, the agent renders a variety of services which either are not available at all to the savings-bank applicant or policyholder or are not available except at considerable personal inconvenience.

Such services, which are supplied at the policyholder's home or office, include expert advice as to forms of policies available in different companies, arrangements for optional modes of settlement, programing existing insurance in one or more companies, changes in plan of insurance or in mode of premium payments, services in connection with policy settlements, and many other matters. Some part, at least, of the saving in cost under the savings-bank plan must be written off against the loss of such services. Apart from such services (much more real now than formerly) there is the fact that, were it not for solicitation by agents, many persons would not be insured at all. The companies believe that from an economic standpoint the agency system more than justifies its cost in the resulting wide extension of the benefits of life insurance.

The fundamental question involved, so far as the expense of the agency system is concerned, is whether it is better to have a relatively small number of persons insured at low cost than to have a very much larger number insured at a somewhat higher cost. From the point of view of economic advantage and the general public welfare, there is no doubt that the latter is preferable. If so, the agency system and the expense of maintaining it are entirely justified.

Criticisms of Savings-bank Life Insurance. Most of the criticisms directed against the plan at the time of its inception have not been justified by experience. It was claimed that the number of persons who would voluntarily seek such insurance would be negligible. The number of policies in force in the three state systems—now over 500,000—can hardly be regarded as negligible, and the number is rapidly increasing. It was also claimed that the mortality rate would be excessive because a large proportion of substandard lives would attempt to get this form of insurance, a prophecy which has not proved accurate. Other criticisms were that the interest rate would be low because of the investment restrictions on savings banks, and the lapse rate high. Partly for reasons which have already been discussed, neither has proved to be the case.

The plan may be criticized chiefly on two grounds: (1) that

the competition which it creates is unfair; (2) that it is inferior in service and security to insurance in the companies.

Unfair Competition. Under the existing system of government it is generally considered that it is not the function of the state to enter directly into competition with private business. It would seem to follow that it is not proper for the state to lend its prestige and support to a favored class of private insurers. It is, however, true that since 1938 no promotional activities have been undertaken in Massachusetts by the state, and in the other two states the operation and promotion of savings-bank life insurance have always been separate from the state, which has exercised only regulatory supervision. The companies naturally consider that the emphasis on low cost and the implication that the agency system is unnecessary and wasteful are misleading in view of the different character of the services furnished. This is particularly true in regard to comparisons with the cost of industrial insurance, which, for reasons already indicated, is not at all comparable with savings-bank life insurance.

While the companies have not recognized the necessity, desirability, or propriety of permitting savings banks to write life insurance, some of them have more recently taken the general position that they will not oppose savings-bank insurance except to the extent that the banks are permitted to operate under less stringent rules and requirements than the companies. This would include the application to the agents of the savings banks of the same examination and licensing requirements as are applicable to the agents of life insurance companies. This has, in fact, been accomplished in New York where, since 1948, the state insurance department has required that employees of savings banks who receive applications for insurance must pass an examination similar to that required for the issuance of an agent's license. At the same time some other minor changes were made in the insurance and banking laws with the purpose of making the insurance departments of the banks subject, as far as possible, to the same regulatory requirements as the companies. It may be noted that savings-bank life insurance enjoys exemption from federal income tax by reason of the exemption granted

mutual savings banks under Sec. 101 of the Internal Revenue Code.

Service and Security. The absence of any service to policyholders and the public comparable with that furnished by the companies and their agents, and the tendency in their literature and other publicity media to dwell only on the *cost* of an agency system is the principal legitimate criticism of the savings-bank system. Reference has already been made to the services of agents. The banks are the point of contact with policyholders. Many of the insuring banks are very small and have only an insignificant life-insurance business. It is evident that only the large banks are in a position to maintain a special staff of trained persons competent to advise on the many technical matters relating to the effecting and maintenance of life insurance. It is simply not their business.

As to security, while the plan in actual operation corresponds in many essential particulars to the operation of a single life insurance company, there is the important distinction that, instead of a single large insurance fund responsible for all liabilities of the "company," the fund is split into as many parts as there are banks, each of which is liable only for the claims of that particular unit.

It may not be fully realized by the average policyholder under the savings-bank plan that the assets of the banking department of the savings bank in which he takes insurance are not liable for the insurance contracts and that the security behind his contract is represented by (1) the assets, including the surplus, of the insurance department of the particular bank in which he is insured, and (2) a claim on the central guaranty fund. The unification of mortality experience is an important and, in view of the other elements of security, a vital element in the situation. It would seem, however, that the degree of security is inferior to that in most of the companies although the savings banks apparently claim that the reverse is the case.

Thus, in the 1944 edition of the "Survey" of the Massachusetts system issued by the Deputy Commissioner, the following statement appears:

. . . the Savings-Bank Life Insurance system points with pride to the fact that the surplus maintained in addition to the required reserve on October 31, 1943 was an amount equal to 8.96 per cent of the reserve. This does not necessarily mean that the policyholders in the huge life insurance companies which maintain a smaller percentage of surplus are not adequately protected. It does mean, however, that the policyholders in Savings-Bank Life insurance enjoy a wider margin of safety.

The fact is that the percentage of surplus to reserves should be greater for a small company than for a large one. In the case of such extremely small units as are found in the savings-bank system and upon remembering that the surpluses of individual banks are not available to other banks, it would be difficult to say what percentage could be regarded as sufficient. This is not, by any means, to imply that there is a question as to the security of the policyholders in the savings-bank systems. The long record of the Massachusetts system would seem to demonstrate the financial soundness and practicability of the plan. The individual surpluses and the central guaranty fund have steadily increased, and there never has been any occasion for any bank to call on the central fund for assistance.

CHAPTER XVIII

INTERNAL ORGANIZATION

The internal organization of a life insurance company is broadly divided between the work of the home office and that of the branch offices and agents. The general management and control of all the company's affairs rest with the home office, while many details of administration and most of the work involved in new-business production and service to policyholders are carried out at or by agencies and branch offices throughout the territory in which the company operates. The organization of the home office will first be considered. Naturally there is considerable variation in the detail of the systems of organization of different companies. The following paragraphs therefore can only outline the subject in a general way. •

HOME OFFICE

Duties of Directors. The supreme control of a life insurance company is exercised by directors (or, as they are sometimes called in mutual companies, "trustees") when acting as a full board. The full board represents and is elected by the stockholders of a stock company or the policyholders of a mutual company. Control by the full board can be exercised in only a general way. A more active participation in the management by individual directors is obtained by the appointment of small committees of the board to which certain powers are delegated by the full board. These committees usually include an *executive*, or *insurance committee*, a *finance committee*, a *claims committee*, and an *auditing committee*.

The duty of the executive committee is to act on the recommendations of the officers in regard to all questions affecting the general methods of carrying on the business, as, for example, the classes of insurance and kinds of policies to be written, the rates

of premium to be charged, the terms of the company's policies, the territory in which the company is to operate, and so forth.

The finance committee decides the general investment policy of the company and is concerned chiefly with investment of the company's funds. All questions of sale or purchase of real estate or securities, granting of mortgage loans, bank deposits, and similar matters come within the province of this committee. In larger companies there will usually be a separate committee to deal with real-estate and mortgage loans. The claims committee has jurisdiction over the payment of claims and, in particular, decides the action to be taken in regard to doubtful or contestable claims. The auditing committee maintains a general supervision over the company's accounting system.

Directors' committees will, as a rule, be guided by the recommendations of the officers of the company directly concerned. Frequently executive officers of the company are themselves members of the board and of directors' committees or, if not, attend them in an advisory capacity. This is necessarily so in the case of committees dealing with technical details of the business. In general, the function of directors is not to initiate action but to approve or disapprove the recommendations made by the officers of the company who carry on its active management and who are in close touch with its affairs.

Duties of Officers. The effective control of the company in all routine operations is necessarily in the hands of the officers and the heads of departments. The duties of the various officers are regulated by the provisions of the company's bylaws or "code of organization." In practice, the duties of officers vary in different companies according to size, the nature of the business, and other considerations. In theory, the president of the company supervises all the departments of the company, and the vice-presidents each have active supervision of one or more departments according to the size of the company. They assist the president and act for him in his absence.

An *executive officer* is one who has power to bind the company, *i.e.*, power to contract on behalf of the company. The executive

officers are usually the president, vice-presidents, and the secretary, but variations are found in different companies.

The normal distribution of the work of the home office into departments may be illustrated by considering the action necessary in dealing with an average application for insurance. The application is secured by an agent who is under the control of the *agency* department. The applicant is examined by an examiner appointed by the *medical* department. The applicant must then be "inspected" by a correspondent, appointed by the department in charge of the *selection of risks*. The correspondent is usually a representative of one of the credit-reporting companies but in some cases is an employee of the insurance company. The rate of premium to be charged is calculated by the *actuarial* department. The policy form, which is prepared or approved by the *law* department, is written and issued by the department in charge of *policy issues*. The premium received and the commission paid to the agent are entered on the books of the company by the *comptroller's*, or *accounting*, department, and the net amount is deposited in the bank and subsequently invested by the *treasurer's* department. The principal records and the necessary correspondence are under the control of the *secretary's* department.

Each of the departments mentioned has, of course, many duties in addition to those to which reference has just been made. These duties vary according to the practice of different companies, the distribution of work by departments depending largely on the size of the company. The principal duties of each department will now briefly be described.

Agency Department. The agency department is usually under the direct charge of a vice-president or other executive officer, usually called the *manager of agencies*, who is assisted by one or more *superintendents of agents*. This department has general charge of the company's offices other than the home office and of the conduct of the company's business transacted at such branch offices. It is the principal duty of the agency department to secure new business. To do this it will make contracts with soliciting agents, either through its *branch managers* or by ar-

rangement with *general agents*, and, in the former case, will fix the terms of agents' contracts, including the rates of commission to be paid. The rates of commission should be approved by the actuary, who is responsible for the sufficiency of premiums. The agency department will appoint the general agents or branch managers, as the case may be, who have general charge of the company's affairs in various localities throughout the country where business is transacted. The agency department will also prepare rate books and canvassing literature for the use of the agents, and will carry on such training and educational work as is necessary to equip the agency force for successful performance of their duties.¹

Department of Selection of Risks. Selection of risks, or, as it is sometimes called, *underwriting* of risks, is partly the work of the *medical* department, which is under the control of the *medical director*, and partly the work of the *nonmedical underwriters*. Usually all aspects of the selection of risks are under the supervision of one officer called the *manager of selection*. The medical department selects and appoints medical examiners throughout the territory covered by the company, and a large part of its work will consist in scrutinizing and reviewing the reports made on applicants by these examiners. The most important duty of the medical director is to make recommendations of medical standards to be adopted by the company in the selection of risks. For this purpose the medical department will arrange for the collection of statistical information of all kinds bearing on mortality rates and medical selection.

The factors, other than the medical examination, involved in the selection of risks (such as finances, environment, occupation, and "moral hazard") are usually under the control of a *supervisor of risks*. Arrangements will be made for the availability of local correspondents from whom information may be secured, for the collection and classification of miscellaneous information bearing on the insurability of various types of risks and, some-

¹ The general organization of the agency department in relation to the field is described in the second part of this chapter.

times, for the organization of a specially trained staff for the purpose of inspecting applicants for large amounts of insurance.

Most companies perform a large part of the routine work of reviewing applications through the medium of specially trained lay selectors. The majority of cases involving moderate amounts of insurance are clearly acceptable and do not call for any special skill in selection. Those which involve any doubt as to insurability are referred to the medical director or supervisor of risks, while for difficult or doubtful cases or cases involving large amounts there is frequently a special selection committee.

Actuarial Department. It is the duty of the *actuary* of the company to see that its operations are conducted on a sound financial basis. An actuary is specially trained in calculations which involve the rate of interest and the rate of mortality, on which the business of life insurance depends. His duties are, however, of a broad nature, and, in addition to much routine work of a technical description, he must advise the other officers of the company on many matters affecting the company's business. The actuary is, in short, the technical adviser as to the company's insurance operations.

The work of the actuarial department has to do chiefly with premium rates, reserves, and dividends. The actuary recommends the bases of mortality, interest, and loading upon which the premium rates are to be calculated, and his department prepares tables of premiums for the use of the agency department. An important duty of the actuary is the calculation, at the date of a financial statement, of the amount of the liability on existing policies (the reserve) and the determination of the amount of surplus available for distribution among policyholders as dividends. The methods and formulas to be used in the distribution of surplus are also determined by the actuary, who must keep all records required for either reserve or dividend calculations. The actuarial department furnishes the tables of cash and other nonforfeiture values which appear in the company's policies and makes all necessary calculations when policies are lapsed, surrendered, or changed in any manner. In conjunction with the comptroller, or auditor, the actuary prepares the annual financial

statement. In addition, the actuarial department keeps the necessary records of the mortality experience of the company and makes any mortality or statistical investigations which may be needed or desirable and for which its equipment and knowledge are particularly suited.

Law Department.² The *law department*, the officer in charge of which is usually called the *general counsel*, approves all forms used in the transaction of the company's business, such as application blanks, claim blanks, and policy forms. When payments of any kind are made under the terms of policy contracts, the law department will determine, if necessary, to whom payment should be made, particularly where the company has notice of assignments, bankruptcies, or other claims. It will also examine titles in connection with the real-estate and mortgage transactions of the company and make the necessary arrangements for protecting the company's interests in such matters. In connection with the company's investments it will ascertain, if necessary, whether bonds or other securities proposed for purchase have been legally issued, what the security is, and whether the company may legally purchase them. The company's counsel will take care of its interests in any lawsuits in which it may become involved and will arrange for appearances and representation. The law department must also keep in touch with all legislation affecting life insurance, whether in Congress or in state legislatures, as well as with the numerous rulings of the state insurance departments, so that the company may not fail to be informed of and comply with the provisions of all such laws or rulings. In this connection an important duty of the law department is to see that the company duly pays all taxes for which it is liable.

Department of Issue. The *secretary, registrar*, or other officer (frequently the manager of selection) in charge of issues prepares the policy in all cases where the application has been approved and keeps a record of all policies issued. This record is

² The law department is frequently referred to as the "legal" department. All departments are, of course, legal departments.

a source of information for all departments on such matters as the name of the insured and of the beneficiary, the description of the policy, its plan, and its amount. Upon it will be entered all records of assignments, changes of beneficiary, and other amendments to the contract. It is necessary for other departments to keep, for their own purposes, records of all policies issued, and the registrar must therefore furnish to all departments concerned details of each policy issued to enable them to make the records that they require. This is now practically always done by preparing a set of "punched cards" for every policy issued, which include all the necessary data required by the various departments. For example, such records must be kept by the comptroller for use in the accounting of premium payments, and by the actuary for the purpose of calculating reserves and dividends and compiling mortality experience.

Accounting Department. The officer in charge of the accounting department is generally called the *comptroller*. He is responsible for the proper accounting of all the financial transactions of the company. He keeps the individual records of premium payments and maintains the necessary ledgers and other books required to record all receipts and disbursements and all accounts necessary for the preparation of the company's financial statements. An important part of the duties of his department is the examination and audit of all financial statements sent to the home office by the various agencies of the company as well as the periodical audit of the books kept at branch offices. The comptroller is responsible for notifying other departments concerned when the premium on any policy is not paid in order that any action necessary to carry out the terms of the contract may be taken at the proper time.

Financial Department. The *treasurer* or other officer in charge of investments has custody of the securities in which the company's funds are invested and is responsible for keeping proper records of all transactions in connection therewith. His most important duty is to keep all investments under observation and to make recommendations as to purchases and sales. He will make recommendations to the finance committee in regard to

investments available for the company's funds and furnish information as to the amount of money available for investment. He also reports on the standing of banks in which the company's money is to be deposited and regulates the amounts of balances that should be maintained. In connection with the recording of investments, he will maintain records showing the amortized values of bonds where such values are used and will keep such records as are necessary to prepare the financial schedules of the convention blank.

The *cashier* of the company acts under the treasurer or the comptroller and takes charge of the cash transactions, including the receipt of premiums, interest, and other income and the payment of death claims, surrender values, dividends, and expenses. The department of policy loans, in which loan notes are prepared and in which the necessary records of policy loans and interest are kept, is also usually under the jurisdiction of the treasurer.

Secretary's Department. The *secretary* is responsible for the handling and filing of correspondence and has custody of the main records and documents relating to policies issued, including assignments or other notifications of claims against policies in force. It is also the duty of the secretary to record the proceedings at board meetings and at the meetings of the various committees of the board and, where required by law, to file copies of the minutes of such meetings with the state insurance department. Usually the secretary is in charge of all matters relating to the personnel and, in some companies, of general office administration and planning.

The chart on page 456 shows a typical home-office organization of a life insurance company.³

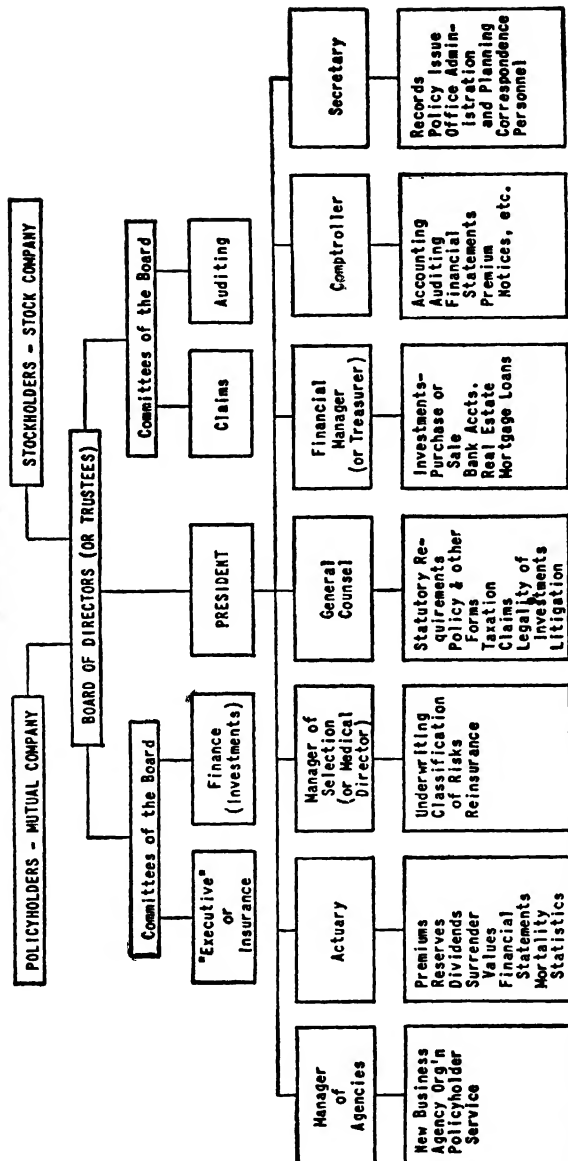
THE FIELD

Necessity for Agents. Applications for insurance rarely come unsolicited but must be secured by the active efforts of soliciting agents. The expense consequent upon the employment of agents is sometimes criticized. Experience shows, however, that, if

³ This chart is reproduced by permission of the Life Office Management Association from "Introduction to Life Insurance," Vol. II, p. 42.

Typical Organization Chart of a Life Insurance Company

(doing "Ordinary" Business only)



NOTE: This chart shows only the principal duties of each department. Other duties and functions are described in the text.

The above is not a standard or uniformly followed organization by departments. Organization and duties of departments (or officers) vary considerably in different companies. For example, claims are, in many companies under the Secretary; office administration and planning are sometimes under the Comptroller; Policyholder Service may be under the Secretary. The particular organization shown is, therefore, to be considered as a "sample" or "typical" organization.

soliciting agents are dispensed with, the amount of business secured will be exceedingly small. All state plans of life insurance operated without soliciting agents, such as those of Canada and Great Britain and that of Wisconsin, have, in spite of the obvious advantage in the high degree of security offered, been practical failures as regards the amount of insurance obtained, which has been so small as scarcely to justify their existence. In Great Britain comparatively few people even know that the government issues policies of life insurance, while the general objection to the red-tape methods associated with government operation undoubtedly prevents many from taking government policies.

The need for solicitation to overcome the natural inertia of those who should have insurance was demonstrated by the experience of the federal government in connection with "War Risk Insurance" and "National Service Life Insurance" offered to those in the military and naval services in the First and Second World Wars.⁴ In spite of the obvious necessity for and generous terms and advantages of this insurance it was found necessary to adopt active and aggressive methods of solicitation to induce many of those who were eligible to apply for it.

An apparent exception to this general rule is the system of savings-bank life insurance which has been in operation in Massachusetts since 1908, in New York since 1939, and in Connecticut since 1941. Although substantial amounts of insurance have been issued under the savings-bank system and although the cost has been low, the total amounts have, as has been seen in the previous chapter, been small as compared with the amounts issued in these states by the regular companies.

It is therefore well established that the only way, in ordinary circumstances, to secure any considerable volume of business is to employ soliciting agents. It is remarkable that life insurance, which to most people is one of the necessities of life, must be sold by active solicitation, but such is the case.

In the United States and Canada the agency system has been

⁴ See Chap. XXI.

developed to a much greater extent than in any other countries, and the business of selling life insurance is followed by many thousands of persons, both men and women, as an exclusive occupation. In other countries the majority of agents sell life insurance only as opportunity offers and as a means of supplementing their income from other sources. The result is that in other countries both the total amount of insurance in force and the amount per capita are relatively small.

Classes of Agents. Life-insurance agents (now more frequently described as "life underwriters" or "field underwriters") are of three classes, namely, (1) full-time agents; (2) part-time agents; and (3) brokers.

A full-time agent is under contract, as a rule, to only one company and places all his business in that company—except for any "excess business" (amounts in excess of his own company's maximum retention or business otherwise not acceptable by his own company), which he may place in other companies. In most companies a very large proportion of all business issued is now obtained from full-time agents.

Part-time agents (also, usually, under contract to only one company) were formerly very numerous; but, in view of the developments in the selection, training, and compensation of agents, they now form only a small part of the agency force. Usually a part-time contract is granted only (1) where the character of the territory is not such as to yield sufficient business for a full-time agent; or (2) as a temporary measure to enable the agent to test his ability as a life-insurance salesman.

A broker transacts insurance business of all kinds on behalf of his clients.⁵ He usually has contracts with a number of different life insurance companies, placing his business in accordance with the wishes of his clients or in accordance with his own interest. Usually a broker has no special knowledge or training in life insurance and is not subject to the same degree of control by the company as are its regular agents. Some companies do

⁵ A broker is, by legal definition, the *agent of the insured* in placing insurance, but in life-insurance circles the term "broker" is used to designate an agent of more than one insurer (company)

not accept business direct from brokers and require that all business shall come through one of their own soliciting agents. This requirement is made for the protection of the regular full-time agents. It is apparent that since life insurance is, generally speaking, more complicated than any other form and since the purchase of a life-insurance policy usually involves at least some element of investment and the payment of premiums during a long period of years (whereas other forms of insurance are written on short-term contracts), the sale of life insurance calls for expert knowledge and advice.

Some companies feel that brokerage business is less desirable than business secured through the regular full-time or part-time agents. One reason for this feeling is the prevalence of applications for large amounts, or on "borderline" risks where the case is apt to be "shopped around" by a broker in order to secure the most favorable terms. It would seem, however, that any adverse selection of this kind could be avoided by more careful selection of such business, and that is the view taken by companies that invite brokerage business.

Selection and Training of Agents. One of the most notable developments in the life-insurance business during the last 20 years has been the increasing attention given to the selection and training of agents. Formerly the agent was regarded purely as a salesman. Virtually anyone who could obtain applications for insurance could get an agent's license. He received little or no education or training, even in salesmanship, and was frequently poorly equipped to act as a life-insurance adviser. His life in the business was frequently very short.

Today the agent is a carefully selected and well-trained expert in life insurance who is competent to, and does, give sound advice and continuing service to his clients. Most companies now select agents in the first place on the basis of an aptitude test such as that developed by the Life Insurance Agency Management Association. This eliminates, at the beginning, most of those who are not likely to succeed, and makes for permanence in the business of those who are selected. Attention is also paid to such factors as education, previous occupations, community

activity, and personality. When a new agent is selected, he is now required in practically all companies to take the educational courses prescribed by the training division of the agency department, which cover life-insurance fundamentals, the contracts and practices of the company, and approved sales methods. The period of training may last for 6 months or a year or longer and may involve attendance at agents' schools at the company's home office.

An important development in the educational field was the organization in 1927 of the American College of Life Underwriters, which grants, upon examination and subject to fulfilling certain requirements of practical experience, the designation of Chartered Life Underwriter (C.L.U.). Its examinations cover a wide range of subjects. An increasing number of agents are qualifying for this designation, which is recognized as an indication of professional standing.

Licensing of Agents. In most states life-insurance agents must secure a license from the state insurance department or other department having control of insurance matters. Some states require the applicant to pass an examination before a license is issued. This is a desirable and even a necessary rule for the better protection of the public. However, there is less need for it now than formerly, in view of the much stricter rules of companies as to the appointment of agents and their educational requirements. In some states the license sets forth the name of the company with which the agent is under contract or for which he is to solicit insurance. In such states an agent, if he wishes to transact business for more than one company, must secure a separate license in respect of each company. Unless, however, the agent is carrying on a general brokerage business, he will, as a rule, be required by the terms of his contract to work for one company alone. Other states grant a license which permits the agent to solicit applications for any company operating in the state, while a few states do not require any license. In some of the Southern states local licenses are required by county authorities in addition to a state license. Such license requirements are for purposes of revenue.

Agents' Contracts. The soliciting agent receives a contract either from the company or, where the company operates on the general-agency system (as explained below), from its general agent. Under the general-agency system the contract is with a general agent operating in a particular locality and not with the company itself. The contract sets forth the rates of commission that will be paid on new premiums and on renewal collections.

Other clauses in the agent's contract detail the obligation of the agent to pay over to the company without delay all premiums collected by him on its behalf, notify him that he is not authorized to make any alterations or modifications in the terms of the company's policies, and prohibit *rebating*. Rebating is the granting to the person insured, as an inducement to take the policy, a part of the commission paid to the agent by the company. In former years, the practice of rebating was common. It was found that it had a tendency to increase commission rates, since the agents, in order to meet practical conditions, were compelled to pay out part of their compensation and demanded a higher rate to enable them to do so. This practice increased the cost of insurance to the policyholder. In some states rebating is a penal offense for which both the agent and the person accepting the rebate may be punished by fine or imprisonment.

Methods of Compensation. Methods of compensating agents have received much study in recent years, and at the present time the whole system of compensation is in a transitional stage. The traditional method, under which the agent receives a relatively high percentage commission on the first year's premium, with renewal commissions of much smaller amount for a limited period, has some serious defects. It grew up during a period when it was considered that the agent was purely a salesman whose only duty was to get new business and when he was not expected to furnish advice or service to the policyholder once the policy had been sold.

During this period the emphasis, so far as the agent was concerned, was all on volume of production. The successful salesman could make a good income from the start, so long as he

continued to write a substantial amount of new business; but if his production decreased, as it was apt to do as he grew older, his income rapidly decreased and eventually ceased altogether. Some agents had sufficient foresight to make provision during the prosperous years for the lean years ahead, but many did not.

From the company's point of view the system also has serious disadvantages. One of these is that the concentration of expense in the first policy year creates, as has been explained, practical difficulties in the accumulation of reserves on the net-level-premium plan. In addition to the troublesome problems of responsibility for agents who had served the company for long periods and who were left without adequate income in their later years, there was apt to be a large turnover in the agency personnel. The system of fully vested renewal commissions meant that there was less inducement for the agent to remain in the service of the same company or even to stay in the life-insurance business, so that substantial amounts were paid to men no longer with the company and performing no service either to the company or to its policyholders. Commissions, whether new or renewal, were thus, in effect, compensation for obtaining new business. Too large a proportion of the total remuneration of a long-established agent was dependent upon first-year commissions, resulting in heavy reductions in income in years of low production. Although formerly comparatively little was done in the way of training or education of new men, this turnover was wasteful and expensive to the companies. Moreover, the system of high first-year commissions meant that it was sometimes more to the agent's financial interest to write a new policy than to keep an old one in force. Coupled with the fact that the agent was not usually expected to do much, if anything, in the way of service to existing policyholders, this naturally tended to have an adverse effect on the persistency of business after it was written.

Modern methods of compensation are based on an entirely different conception of the duties and functions of the agent and his relationship to the company and its policyholders. They depend to a large extent on the permanence of his association with the company.

Two broad principles are now fully recognized: (1) that the

agent is not merely a salesman but must be a properly qualified life-insurance adviser; (2) that compensation should be related to the extent and quality of the services performed and should, so far as possible, be on a basis which will tend to equalize the agent's earnings over his active life.

The first of these principles requires that (as is now the case) new agents be carefully selected with regard to their ability, qualifications, and probable success, and also that they should be thoroughly trained in all matters in regard to which they will be called upon to advise both prospective and existing policyholders. The second requires that proportionately less of the agent's total earnings should depend on the volume of new insurance written and more on services actually rendered to existing policyholders. This implies, in general, a somewhat lower rate of first-year commission and higher rates of renewal commission, particularly in the early policy years, than were previously used; it also requires the replacement of fully vested renewal commissions payable only for a few years by a system of nonvested renewals supplemented by "service fees" continuing throughout the duration of the policy or, at least, during the whole of the premium-paying period. In many companies these are now further supplemented by a retirement allowance paid for during the active years by contributions from both the agent and the company and based on the agent's earnings.

The changes referred to above have already resulted in attracting many men and women of high caliber to the life-insurance business and have gone far toward the establishment of a professional standing for "field underwriters." These changes are of great benefit to all concerned—the policyholder, the company, and the agent.

A practical problem in connection with these changes is the establishment of the new agent and the provision of an adequate income for him during the training period and before he "gets into production." New entrants in this business, as in other businesses, should be prepared, to some extent at least, to finance themselves; but, as a practical matter, some assistance will usually be necessary. Formerly the only assistance available to the new agent was in the form of advances against commissions

to be earned. This meant that the new man frequently began by accumulating a burden of debt which it took him a long time to repay and which sometimes resulted in his abandoning the business.

This system applied indiscriminately sometimes resulted in considerable expense to the company, its manager, or its general agent through the failure of agents to repay such advances. It is still necessary to finance new agents either by advances against commissions or by the payment of salaries where this can be done within the provisions of state laws regulating agents' compensation. The situation, however, is much better than it was because, where the agent is carefully selected in the first place, the percentage of failures is relatively low. Some companies have adopted salary plans effective during the first year or two by which the amount of salary is definitely related to the *work done* by the agent in soliciting and closing business rather than to the volume of insurance sold. With proper control and supervision, including early termination of the contract where the indications of success are clearly unfavorable, such a plan works well both for the company and for the agent.

ORGANIZATION OF THE FIELD

To what extent the establishment of branch offices should be carried is a question the answer to which depends on a variety of considerations. Some expense is involved in entering new territory, and in the matter of expense a young company is limited. In any case the volume of business that a small or recently organized company can handle is limited, for reasons which have been explained in Chap. VII, and as a rule such companies do not operate in more than two or three states. Other considerations for such companies are the reserve requirements of the various states, the amount of taxation, and the prospects of success, particularly with regard to competition.

Another consideration of importance is the condition of the territory as to health, sanitation, and the mortality rate. Generally speaking, the mortality rate in the Southern states is higher than in the Northern states. While most of the companies transact business in the South as well as in the North,

most of them will not accept applications for insurance from persons living in the more unhealthful districts of certain states.

There are two principal systems of organizing the field forces of a company: the *general-agency* system and the *branch-office*, or *manager*, system.

General-agency System. Under the general-agency system, a general agent is given the exclusive representation of the company in a specified territory. The general agent receives a contract from the company under which he is paid the maximum rates of commission on all business secured in his territory. He may, in addition, be paid collection fees or allowances in respect of renewal business and usually also a contribution toward the expense of maintaining his office. He is entirely responsible for the organization and remuneration of the agency force in his territory, and the agents whom he appoints make their contracts with him and not with the company. The other work of the company in the territory, such as the collection of premiums and loan interest and all other routine transactions with policyholders, may be in charge of the general agent, or he may leave them entirely in the care of a separate salaried force of the company working under his direction but not employed by him. It is of some advantage to the general agent to have the means of contact with the company's policyholders that such routine operations afford. On the other hand, the necessity of attending to numerous matters of detail may prevent him from devoting the majority of his time to his principal duty, that of securing new insurance.

In this duty the general agent may rely chiefly on his own efforts, or he may endeavor to secure results by employing a large agency force. He may be, and usually is, a large personal producer of business; but, whether he is or not, he should give to his subagents such opportunities and such rates of commission as will attract and retain the best men obtainable. In this way he will build up a considerable volume of business, the income from which, represented by the margin between the commission he receives from the company and the commission which he pays under his own contracts with individual agents, will, together

with his personal business, probably eventually exceed the amount which he would realize from personal production alone.

The Branch-office, or Manager, System. Under the branch-office system of agency organization, the company's representative in the field is a salaried manager who acts in all matters and with all subsidiary employees and agents on behalf of the company. The manager's salary usually consists of a base salary independent of production, with additional remuneration depending chiefly on the amount of new business produced and on the persistency of the business produced. In addition to salary he may receive commissions on personal production, although, as a rule, it is not intended that he shall compete with the regular agents. The contracts of the agents appointed by the manager are made with the company, and all expenses of the manager's office are paid by the company.

The qualities required for a manager are similar to those necessary in the case of a general agency. He may have been a good personal producer or an associate or assistant manager who has proved his ability to stimulate and instruct agents. The manager, being the company's representative, is in charge of all the company's business in his territory and cannot, therefore, spend much of his time in the personal pursuit of new business. The extent to which he does so depends largely on the individual and on the size of the agency.

Comparison of the General-agency and Manager Systems. Each of these systems has advantages from the companies' point of view. Although, in recent years, there has been a trend toward less difference than formerly in the operation of the two systems, the essential differences are as follows: (1) the general agent is an *independent contractor* remunerated on a commission basis, while the manager is a *salaried employee* of the company; (2) under the general-agency system subagents are under contract to the general agent and receive compensation on the scale determined by him, whereas under the manager system agents receive their contracts directly from the company and, in general, are compensated on a uniform and standard commission scale (with, possibly, other forms of remuneration, such as company con-

tributions to an agents' pension plan or to the cost of an agents' group-insurance plan); (3) a general agent pays the expenses of operating the agency, receiving, however, an expense allowance from the company, whereas, under the manager system, all expenses are paid direct by the company; (4) the general agent is primarily a *salesman* and normally produces a large volume of insurance personally, while the manager is primarily an *administrator* who may or may not write personal business.

The principal advantages of the general-agency system are (1) freedom of the home office from many of the details of the administration of new-business production; (2) decentralization of control of agents, thus tending to development of practices suitable to different areas; (3) greater coordination of production and cost. On the other hand, the manager system (1) gives the home office full control over all its agents; (2) tends to greater uniformity in the quality and training of agents; (3) is more likely to encourage the development of an agency force (which is one of the principal duties of the manager); and (4) generally results in a somewhat lower cost of operation.

As indicated above, there is less difference now than formerly in the practical operation of the two systems. Thus, in some companies the compensation of managers is being made more dependent on production and growth, while there is a tendency in the general-agency companies to assume more direct responsibility for expenses and to require uniform methods in the selection and training of new agents.

Internal Organization of Field Offices. The internal organization of a branch office, or general agency, is modeled to some extent on the home office. The principal departments will be those having to do, respectively, with the appointment and supervision of agents, with the selection of risks (including both the medical examination of applicants and the securing of reports or inspections), and with the accounting and control of routine matters. In a large agency the manager, or general agent, frequently has an assistant manager or an agency supervisor. In addition, his staff includes a medical referee (or chief local medical examiner), a cashier, and other necessary office help.

CHAPTER XIX

REGULATION AND TAXATION

GOVERNMENTAL REGULATION

Reasons for Governmental Supervision. Adequate reasons exist for governmental supervision of the business of life insurance. Paramount among these are (1) the public interest, arising from the function performed by life insurance and the extent of its distribution, coupled with the magnitude and extent of the companies' financial operations; and (2) the highly technical and essentially unilateral character of the life-insurance contract.

The extraordinary growth and wide distribution of life-insurance coverage in the United States have made the proper management and financial soundness of the companies a matter of concern to the body politic and "in the public interest." Life insurance is, for many insureds, the only voluntary provision for dependents or for their own old age; and, partly because of present high individual taxes, it is also, for many, the only form of savings. By stabilizing family units financially at the death of a breadwinner, particularly through the payment of a stated income rather than of a lump sum, by providing guaranteed life incomes to individuals after retirement, and by providing guaranteed loan values during periods of financial strain, life insurance is a significant factor in the stability of our national economy. In the accomplishment of these ends, the companies must at all times keep invested in satisfactory income-producing investments funds now aggregating well over 50 billion dollars. With some individual companies numbering their policyholders in millions and their assets and insurance in force in billions of dollars, the public interest manifestly requires some governmental supervision.

A further reason for governmental supervision arises from the technical nature of the business and the necessarily technical

and essentially unilateral character of the life-insurance contract.

The life-insurance business operates on a long-term basis, with generally many years of premium payments by the policyholder before the company is called upon for payment. In order to meet its obligations as they fall due, adequate reserves must be built up, based on appropriate assumptions as to future rates of interest and mortality. The establishment of minimum reserve standards, therefore, forms an important part of governmental regulation. Under the net-level-premium-reserve system, policyholders' equities arise, and the regulation of minimum cash-surrender values and other nonforfeiture values is also an important aspect of governmental regulation.

The character of the life-insurance contract itself is a basis for regulation. Of necessity, the policy contract is to some extent a technical document, containing a certain amount of technical expression and legal phraseology so that its meaning may be specific on each point covered. It is not always feasible to use terms familiar to the average policyholder, who is generally unacquainted with some of the precise language used and with the principles of life-insurance law. The document is necessarily lengthy, and like most insurance policies of other kinds, rarely read carefully by the policyholder. It is a unilateral contract, written by the company, while the policyholder, the other party to the contract, has no part in its preparation. In order to protect him from the insertion of provisions the effect of which would not be apparent to the average policyholder, but which would limit the benefits of the policy—such as a provision that all statements of the insured shall be considered to be *warranties*¹—or from the omission of other provisions, such as those dealing with nonforfeiture or reinstatement, the lack of which he might well not notice, statutory requirements for the inclusion of standard provisions² and requirements for insurance-department approval of new contract forms are appropriate spheres of governmental regulation.

¹ See p. 513.

² See p. 228.

State or Federal Supervision? Historically, the right to regulate the insurance business has been assumed and exercised by the states, and until 1944 that right was considered to rest exclusively with the states. Under the Tenth Amendment to the Constitution, all powers not specifically delegated to the federal government are reserved to the states. Although in Article 1, Sec. 8, the power "to regulate commerce . . . among the several states" is delegated to the federal government, insurance was not regarded as "commerce," and accordingly an insurance business, even though operating beyond the limits of a single state, was not deemed to be interstate commerce, and therefore was not subject to federal regulation. The United States Supreme Court so held in 1869, in the case of *Paul v. Virginia*,³ in which an agent had refused to comply with certain laws of the state of Virginia on the ground that insurance was "commerce" and that therefore the state government did not have the right to enact or enforce such laws. The Supreme Court decided against this contention, stating that "issuing a policy of insurance is not a transaction of commerce," and that insurance policies "do not constitute a part of the commerce between the states."

Despite this decision, the officers of some life insurance companies felt that federal supervision was desirable. During the period between 1870 and 1905, the year of the Armstrong investigation, supervision in some of the states was extremely lax, inefficient, and incompetent. Dubious practices were permitted, and a number of companies failed. Furthermore, state legislatures tended to enact discriminatory laws favoring companies domiciled in their own states while penalizing companies from other states. Some states, for example, denied admission to a company of another state unless the company agreed to relinquish its constitutional right of appeal to the federal courts in event of litigation with policyholders or others or with the state. Efforts to secure federal supervision continued. It was felt by some that, if Congress were to enact a law giving regulatory power to the federal government, it might be upheld by the Supreme

³ 8 Wall. 168 (U.S. 1869).

Court. Efforts in 1892 and 1897 to secure passage of such a Congressional enactment failed, and when the Supreme Court in 1913, in the case of *New York Life v. Deer Lodge County*,⁴ followed the earlier holding in *Paul v. Virginia*, it was generally assumed that the right to regulate insurance had been settled as exclusively in the states.

Since 1913, sentiment has come to favor exclusive state regulation. The character of state supervision has improved, and the attitude of most state legislatures is far less hostile. Credit for these changes goes in no small part to the National Association of Insurance Commissioners, which has also been instrumental in securing passage of some uniform legislation and in some instances in eliminating duplication, as in the procedure for valuation of unlisted securities by a centralized office. The general favor in which exclusive state regulation is held is increased by substantial doubt as to the nature and extent of possible federal regulation.

In view of this background, many were shocked when the United States Supreme Court on June 5, 1944, in deciding the case of *United States v. South-Eastern Underwriters Association*,⁵ held that the business of insurance was commerce, and that when conducted across state lines it was interstate commerce and therefore subject to the Sherman Antitrust Act. This case was a criminal prosecution in the U.S. District Court for the Northern District of Georgia against an organization of fire insurance companies operating in Georgia and surrounding states, and against its officers and member companies alleging a conspiracy to fix and maintain arbitrary and noncompetitive premium rates and to monopolize trade and commerce in violation of the Sherman Antitrust Act. The Court's opinion, by Mr. Justice Black, distinguished the line of cases starting with *Paul v. Virginia*, holding that the earlier cases involved the validity of state statutes and that this was the first case squarely presenting the question of whether the commerce clause grants to Congress the power to regulate insurance when conducted across state lines. On the

⁴ 231 U.S. 495 (1913).

⁵ 322 U.S. 533 (1944).

same day, the Court held in a unanimous decision in the case of *Polish National Alliance v. National Labor Relations Board*⁶ that a fraternal benefit society was subject to the National Labor Relations Act, because the defendant was an insurance company and its operations "affect" commerce within the meaning of that act.

The sweeping implications of the *South-Eastern Underwriters* decision made it apparent that numerous readjustments would be required to reflect the status of the insurance business under existing federal laws. In order to allow time for these adjustments to be made, Congress enacted the McCarran Act, Public Law 15 of the 79th Congress (approved Mar. 9, 1945), which established a moratorium period until Jan. 1, 1948, during which the Sherman Antitrust Act, the Clayton Act, and the Robinson-Patman Antidiscrimination Act should not apply to the insurance business, except as to the provisions of the Sherman Act concerning boycott, coercion, and intimidation. The moratorium period was later extended to June 30, 1948. The McCarran Act further provided that only after the expiration of the moratorium period would the enumerated federal laws apply to the insurance business, and then only to the extent that such business is not regulated by state law.⁷

The McCarran Act also contained a declaration by Congress that the continued regulation and taxation by the states of the business of insurance is in the public interest, and that silence on the part of Congress shall not be construed to impose any barrier to the regulation or taxation of such business by the states. Further, provided the Act, the business of insurance, and every person engaged therein, shall be subject to the laws of the states that relate to the regulation or taxation of such business.

In connection with his approval of the McCarran Act, President Roosevelt, on Mar. 10, 1945, issued the following public statement:

I have given my approval to S. 340, the insurance bill, which passed the Congress last week. This bill grants the insurance business a

⁶ 322 U.S. 643 (1944).

moratorium from the application of the anti-trust laws and certain related statutes, except for agreements to boycott, coerce, or intimidate, or act of boycott, coercion, or intimidation, until January 1, 1948.

The purpose of this moratorium period is to permit the States to make necessary readjustments in their laws with respect to insurance in order to bring them into conformity with the decision of the Supreme Court in the *South-Eastern Underwriters Association* case. After the moratorium period, the anti-trust laws and certain related statutes will be applicable in full force and effect to the business of insurance except to the extent that the States have assumed the responsibility, and are effectively performing that responsibility, for the regulation of whatever aspect of the insurance business may be involved. It is clear from the legislative history and the language of this Act, that the Congress intended no grant of immunity for monopoly or for boycott, coercion, or intimidation. Congress did not intend to permit private rate-fixing, which the Anti-trust Act forbids, but was willing to permit actual regulation of rates by affirmative action of the States. The bill is eminently fair to the States. It provides an opportunity for the orderly correction of abuses which have existed in the insurance business and preserves the right of the States to regulate in a manner consonant with the Supreme Court's interpretation of the anti-trust laws.

On June 3, 1946, the United States Supreme Court disposed of two questions raised as a result of the *South-Eastern Underwriters* decision: first, whether state laws regulating insurance violate the commerce clause of the United States Constitution, the business of insurance having been held to constitute interstate commerce; and, second, whether state laws taxing insurance violate the commerce clause. In *Robertson v. California*,⁷ the Court upheld state regulatory power over insurance, *without* regard to Public Law 15. Specifically, the Court upheld the conviction prior to passage of Public Law 15 of one Robertson for violating two California statutes by acting in California as agent for a nonadmitted insurer and by acting as an agent without an agent's license. In *Prudential v. Benjamin*,⁸ the Court, relying on Public Law 15, upheld the power of a state to impose a premium tax on the aggregate premiums received from business

⁷ 328 U.S. 440 (1946).

⁸ 328 U.S. 408 (1946).

done in that state even though the tax applied only to foreign and not to domestic companies. Congress, said the Court, in enacting Public Law 15, must be assumed to have done so with knowledge of existing state taxing and regulatory legislation and must have intended to give its support to such legislation. A week later the United States Supreme Court affirmed, without opinion, decisions of the Kansas Supreme Court upholding the regular Kansas premium tax and the Kansas premium tax imposed under its retaliatory law on companies from a foreign state to the extent that such foreign state's tax exceeds the Kansas tax.

Meanwhile the National Association of Insurance Commissioners, which as early as 1943 had adopted a resolution favoring continued regulation of the insurance business by the several states, cooperated with an "All-industry Committee," comprised of 19 national insurance organizations representing all branches of the insurance business, in working out a pattern for state legislation to strengthen existing state insurance regulatory laws so as to meet the challenge of the McCarran Act. In a letter from the secretary of the All-industry Committee to Senator McCarran in September, 1946, in answer to the Senator's inquiry as to what steps the insurance business had taken to comply with Public Law 15, it was stated in part:

Because of the scope and great importance of the problem, the Committee decided that rate regulatory legislation should be the first matter for consideration. Careful study and consideration developed the view that, with respect to fire, inland marine, casualty and surety insurance, the important objectives of safeguarding insurance company solvency and ensuring fair and equitable practices in the public interest could most certainly be secured under a state regulatory system which permitted cooperative activity in rate-making to be conducted under adequate and affirmative regulatory safeguards. It was recognized that such activities might, in the absence of state regulation, be violative of the Sherman Act and thus that state regulation of the sort which would make the Sherman Act inapplicable was essential. It was also believed that the preservation of competitive opportunity in the insurance business was likewise essential and that this objective should likewise be

secured, to as great an extent as was possible without defeating the paramount objectives.

As a result of the activities of the N.A.I.C. and the All-industry Committee, by the end of 1949 all states, as well as Alaska, Hawaii, and the District of Columbia, had enacted fire-and-marine rate regulatory laws and (with the exception of Idaho) casualty-and-surety rate regulatory laws. Twenty-four states have enacted fair-trade-practices laws prohibiting unfair competition or unfair practices in the business of insurance and, as to certain unfair acts and practices, empowering the insurance commissioner, after prescribed notice and hearings, to issue cease-and-desist orders. Fourteen states have enacted unauthorized-insurers service-of-process laws designed to give a state's courts jurisdiction over an unauthorized insurer issuing policies in that state without authorization to do business there. Several states have enacted laws providing generally that insurance corporations may have interlocking directorates if competition is not substantially lessened nor a monopoly created thereby, and in some instances providing for the acquisition of capital stock of other insurers subject to similar limitations.

The constitutionality of the McCarran Act, Public Law 15, was upheld by the U.S. District Court for Arkansas in September, 1949, in the case of *North Little Rock Transportation Co. v. Casualty Reciprocal Exchange, et al.*⁹ The plaintiff taxicab company had charged a violation of the Sherman Antitrust Act in that the insurers, including the National Bureau of Casualty Underwriters and its members, had engaged in a conspiracy in restraint of trade. The plaintiff argued that the Arkansas Rate Regulatory Law violated the Sherman Act and that the McCarran Act was unconstitutional in so far as it validated such state regulatory laws. The court, however, although holding that the price-fixing activities involved would have violated the Sherman Act were it not for the Arkansas Rate Regulatory Law, held that this state law was a proper regulation of insurance as provided for in the McCarran Act; that the McCarran Act is a proper

⁹ 85 F. Supp. 961 (Ark. 1949).

division of power between the federal government and the states and not an improper delegation of power to the states; and that the state regulatory law does not violate the state law or constitution. This decision was affirmed by the United States Court of Appeals for the 8th Circuit in April, 1950,¹⁰ and petition for review was denied by the United States Supreme Court in October, 1950.¹¹

Meanwhile the United States Supreme Court, in June, 1950, handed down a decision of considerable significance to the future of state regulation of the insurance business. In the case of *Travelers Health Association v. Virginia*,¹² the Court upheld the right of a state to stop unauthorized companies from selling insurance in that state by mail. Under the Virginia "Blue Sky Law" the sale in that state of securities, defined to include certificates of insurance, is conditioned on securing a permit from the Virginia Corporation Commission. The Travelers Health Association, a membership group incorporated in Nebraska, had about 800 members in Virginia, obtained entirely by mail solicitation, and had considered itself exempt from regulation by states other than Nebraska, since it used no paid agents and therefore believed it was not "doing business" in such states. Acting under the Virginia "Blue Sky Law," the Virginia Corporation Commission instituted cease-and-desist proceedings to bar further solicitation or sale of insurance until the requirements of the state law were met. The Association challenged the proceedings on jurisdictional grounds, alleging that the state law violated constitutional requirements of due process, since all its own activities took place in Nebraska and the Virginia Commission could not destroy or impair the right of Nebraskans to make contracts with Virginians. These contentions were rejected by the Virginia courts and also by the Supreme Court, the latter saying that the state of Virginia has power to enforce a cease-and-desist order or at least to enforce that regulatory provision requiring the insurer to accept service of process by Virginia

¹⁰ 181 F. 2d 174 (8th Cir. 1950).

¹¹ 71 Sup. Ct. 56 (1950)

¹² 339 U.S. 643 (1950).

claimants on the secretary of the commonwealth. This decision would seem to support the unauthorized insurers service-of-process laws referred to above, with the result that if such statutes are enacted generally, one important cause of federal complaint as to the adequacy of state regulation may be at least partially eliminated. As matters now stand (February, 1951), the Federal Trade Commission has assumed jurisdiction over mail-order insurance, having, on Feb. 3, 1950 adopted a Fair Practice Code for that business. Although but few life insurance companies sell exclusively by mail, most of them operating through licensed agents, the decision is important in the general question of federal as against state regulation.

As to the future of state regulation, it may be anticipated that the Federal Trade Commission will serve as a continuing prod to state regulation. The interest of the Commission in the subject is indicated by a survey of state regulatory enactments that might affect the application to insurance of the Federal Trade Commission Act or of the Clayton Act, both administered by the Commission. This survey was completed in the spring of 1950 and summarized in a memorandum prepared for the Commission by its Assistant General Counsel.¹³ If the continuance of essentially exclusive state regulation be desired, as many contend, it is to be hoped that further steps will be taken in the development of state regulatory structure, both in terms of state legislation—making it uniform in nature where possible—and in terms of strengthening state insurance departments, wherever possible, by the use of centralized and jointly supported machinery for interstate cooperation, so that federal supervision will be unnecessary. On the other hand, if excessive regulation at the state level should tend to constrain the development of the business, or if the states do not proceed further in making use of techniques to eliminate needless duplication of effort, there may be those who will again seek federal supervision.

Development of Governmental Supervision. In the first half of the nineteenth century the few life insurance companies then

¹³ Published in *Insurance Law Journal*, May, 1950, and in *The Spectator*, June, 1950.

existing were not, as such, subjected to special governmental control. They were required, however, to make such reports to the state departments as were required from moneyed corporations of other kinds. Later, a special questionnaire was introduced in New York for use in connection with the reports of life insurance companies, but, until 1864, some of the companies were exempted from these requirements by the terms of their charters.

A further development of the supervision of life insurance took place in 1851 when the state of New York introduced the principle of requiring a deposit of securities from the companies. This step was criticized as a discrimination in favor of large companies as against small ones (the deposit required being the same for all) and as against companies from other states, since nearly all the large companies were New York companies. The principle is of very doubtful value in view of the comparative insignificance of the deposit required and the inconvenience and trouble involved in handling it. Today such requirements apply generally only to domestic companies in their states of organization, out-of-state or foreign companies being required only to furnish a certificate that such a deposit has been made in the domiciliary state. The New York Deposit Law was, in fact, probably responsible for introducing the idea of retaliatory legislation. While, at times, retaliatory laws were considered by many as representing one of the most objectionable features incident to control by the states, they have frequently proved salutary in restraining unwise or unwarranted legislation.

The first state to provide specifically for the supervision of insurance companies and to appoint officials for that purpose was Massachusetts, where, in 1852, the Secretary, Treasurer, and Auditor of the Commonwealth were appointed a Board of Insurance Commissioners. Three years later an independent board was created and a separate insurance department formed. The insurance department of Massachusetts performed its duties from the first in a vigorous manner and introduced at an early date some requirements which at first met with considerable opposition from the companies. The direct cause of the establishment of the Massachusetts department was the large number

of failures of mutual fire insurance companies, and one of the earliest acts of the department was to establish a standard of solvency for life insurance companies. This standard was rigorously enforced in the face of much opposition, and, although in some respects the requirements of the department were open to criticism, there is no doubt that the general effect on the life-insurance business was salutary.

The establishment of a standard of solvency was followed a few years later by a compulsory nonforfeiture law, which also was opposed by the companies. The principles involved in these two laws have, however, survived all opposition and are now well established as features of the control of the life-insurance business in the United States.

In 1859 an insurance department was established by the state of New York, and duties similar to those performed by the Massachusetts department were undertaken. In the next 10 years 35 states either established special departments for the supervision of insurance or delegated such supervision to specified officials appointed for the purpose.

One of the immediate results of the widespread increase in state supervision and the consequent stiffening of requirements was the failure of a number of the smaller and weaker companies, some of which had been operating on unsound lines, but many of which were merely unable to comply with the strict requirements of the insurance departments. Many of the failures that took place in the period from about 1865 to 1885 were due to extravagance and inefficient methods, and some to dishonesty, but the largest number were due to the strict enforcement of state requirements, particularly regarding reserves and the admissibility of assets.

With the formation of insurance departments and the appointment of supervising officials there came, also, developments in the laws regulating the organization of life insurance companies. There was, and still is, much variation in the laws and requirements of the several states in regard to many details of supervision, but these differences were greatly diminished by the widespread revision of insurance laws which took place as a re-

sult of the Armstrong investigation in New York in 1905. Since that time the most important influence in the direction of uniformity of life-insurance legislation has been the recommendations made at the periodical meetings of the National Association of Insurance Commissioners.

National Association of Insurance Commissioners. The National Association of Insurance Commissioners (N.A.I.C.), until 1935 the National Convention of Insurance Commissioners, has been in existence since 1870. Its original constitution, adopted in 1894, was superseded in 1935 by a new constitution and bylaws. The objects of the Association are to promote uniformity in legislation and administrative rulings affecting insurance, to increase the efficiency of officials charged with the administration of insurance laws, and to protect the interests of policyholders. The present constitution provides for 13 standing committees, including committees on blanks, examinations, laws and legislation, life insurance, social security, taxation, and valuation of securities.

Early accomplishments of the Association include (1) the adoption by all states of a uniform blank for companies' annual financial reports, known as the *convention blank*; (2) the acceptance by most states of a certificate of solvency issued by a company's home state, thus eliminating the added expense and duplication of work required if each state were to verify the company's reserve calculations; and (3) acceptance of the principle that a deposit of securities should be required only in a company's home state.

Among the more important recent accomplishments of the Association are (1) the adoption of uniform rules for the valuation in the annual statement convention blank of all securities; (2) the development of the *zone system* for the triennial examinations of life insurance companies by a team of examiners from various state departments under the general direction of the insurance department of the company's home state; (3) the preparation of a new standard mortality table for ordinary insurance (the C.S.O. Table); and (4) the drafting of a new Standard Valuation Law and a new Standard Nonforfeiture Law, laws

which have resulted in a modern and uniform pattern in these respects in practically all states.

Functions of the Insurance Commissioner. At the present time state insurance departments and officials have a wide range of duties. The insurance commissioner, superintendent of insurance, or other official in charge is responsible for the approval and control of the organization of new companies. He is generally required to conduct a periodical examination of the business of the companies operating in his state. By controlling the licensing of agents, he ensures compliance with agents' qualification laws. Usually he is also charged with supervising the elections of company directors. In some states the insurance department annually checks the calculation of the policy reserve, while all departments require an annual statement of accounts and the other particulars called for in the convention blank. An important duty of the insurance commissioner in many states is the examination and approval of policy forms, application blanks, and other forms to be used within the state, in order to ensure that these comply in all respects with the laws of the state and are, in his opinion, free from objectionable features. In addition to these and other similar duties, the insurance commissioner frequently undertakes to investigate disputes between the companies and their policyholders on behalf of the latter.

CANADA

Regulation. The federal system of government established in 1867 for Canada and its provinces resembles the United States federal system in many respects. The history of Canadian insurance regulation,¹⁴ however, differs somewhat from that in the United States since *both* the federal and the provincial governments in Canada started regulating the insurance business at almost the same time and very soon after 1867. Consequently, conflicts over the respective jurisdictions of the federal government and the provinces arose much earlier in Canada than did conflicts in the United States between the federal government

¹⁴ See John A. Tuck, "Government Regulation of Insurance in Canada," *Proceedings, Legal Section, American Life Convention, 1946*, p. 161.

and the states. At the present time, however, the distribution of functions is fairly clear, and there is little duplication of effort and administrative control.

In 1868 a Canadian federal statute required all insurance companies doing business in more than one province to secure a license from the Minister of Finance, make deposits, and file annual statements. The federal Insurance Department was established in 1875 with authority to examine annual statements and investigate the financial position of insurers. Ontario led the provinces in insurance regulation when, in 1876, it required all companies doing business in the province without a federal license to secure an Ontario license from the Provincial Treasurer, make deposits, and submit to inspection. Ontario also started regulation of policy terms and conditions by a statute the same year, although this particular statute applied only to fire insurance. In later years, similar legislation followed in the other provinces and was extended to cover other types of insurance. By 1879 Ontario had an Inspector of Insurance, and by 1914 a Provincial Insurance Department with regulatory machinery similar to that of the federal Insurance Department. During the intervening years, all the other nine¹⁵ provinces (except Newfoundland) have appointed superintendents of insurance.

Federal legislation in Canada was originally concerned mainly with the solvency and financial responsibility of the companies to which it applied. Provincial legislation was concerned with the solvency of local provincial companies, and with equitable insurance contract provisions. Provincial power to legislate for all insurers on matters of contract provisions was established in an early case.¹⁶ Conflicts, however, arose when conditions as to the manner of doing business were included in the federal statute. The Insurance Acts of 1910, 1917, and 1927 were successfully attacked, at least in part, before the Judicial Committee of the Privy Council. The 1910 Act, which required insurers to obtain a federal license, was held invalid and unsupported under the fed-

¹⁵ The union of Newfoundland with Canada became effective Mar. 31, 1949.

¹⁶ *Citizens Insurance Company v. Parsons*, 7 A.C. 96 (1881).

eral parliament's powers to legislate for the peace, order, and good government of Canada, or for the regulation of trade and commerce.¹⁷ The 1917 Act, which required the inclusion of certain provisions in insurance contracts as a condition of securing a license and made it an offense under the Criminal Code to operate without a license, was held invalid and without support under federal jurisdiction over criminal law, aliens, and immigration.¹⁸ The 1927 Act, imposing an additional tax on unlicensed insurers, was held in 1932 to be an improper use of the taxing power.¹⁹

In 1932, following the Privy Council's decision, a complete revision of the federal insurance laws was enacted. All provisions regarding insurance contracts and the conduct of the business of insurance were eliminated or modified and the functions of the federal Insurance Department were largely limited to questions of solvency. Careful language was used in the hope that the enactment, if challenged, could be supported under the federal parliament's power over bankruptcy and insolvency.²⁰ The 1932 Revision, as subsequently amended, constitutes the present federal insurance law, consisting of three independent statutes: The Department of Insurance Act, The Canadian and British Insurance Companies' Act 1932, and The Foreign Insurance Companies' Act 1932.

Under these Acts, the federal Insurance Department licenses or "registers" British, foreign, and Canadian insurance companies incorporated by the federal Parliament and takes primary responsibility for their financial stability. It also licenses a few provincially chartered Canadian companies. It requires deposits, prescribes annual and statistical returns, conducts periodical examinations, publishes annual reports, and generally supervises the financial affairs of companies licensed by it.

¹⁷ *Attorney General of Canada v. Attorney General of Alberta*, 1 A.C. 588 (1916).

¹⁸ *Attorney General of Ontario v. Reciprocal Insurers, et al.*, A.C. 328 (1924).

¹⁹ *In re Insurance Act of Canada*, A.C. 41 (1932).

²⁰ See the *Reference re Section 16 of the Special War Revenue Act*, S.C.R. 429 (1942).

The several provinces (except Nova Scotia) license all companies transacting business within their borders, even though most of them are licensed by the federal government. However, they do not duplicate the financial supervisory functions of the federal Insurance Department as to federally licensed companies. Their function is to enforce the provincial laws relating to the terms and conditions of insurance contracts, the licensing of agents, brokers, and adjusters, and the regulation of the business generally.

The laws of all the provinces, except Quebec, concerning contracts of life insurance, the rights and status of beneficiaries, and related matters have been substantially uniform since 1924–1925, when the “Uniform Life Insurance Act” was enacted in the provinces. Today the Association of Superintendents of Insurance of the Provinces of Canada (corresponding to our National Association of Insurance Commissioners) accepts the maintenance of this Uniform Act (and of similar uniform acts relating to some other classes of insurance) as one of its major responsibilities. Except in special cases where it promotes isolated changes, it successfully discourages amendments between decennial revisions of these uniform acts. There was a major revision of the Life Act in 1935–1936 and another in 1948 which had been postponed by wartime conditions. The Insurance Contract Law of Quebec is based on the French civil law of that province and therefore differs from the law in the other provinces.

TAXATION

Taxes levied on life insurance companies directly and on policyholders and beneficiaries with respect to payments made to them by life insurance companies constitute a complex field of study. In a number of instances, taxes applicable to the life-insurance business are peculiar to that business; for example, the federal income-tax provisions under which federal income taxes are levied on the companies, and state premium taxes, the primary source of state revenue from the companies. In other instances taxes applicable to the life-insurance business are no different from similar taxes applicable to other businesses. In

some instances, as in the application of federal income, estate, and gift taxes to payments made by life insurance companies to policyholders and their beneficiaries, or to policy transfers, the technical character of life insurance has given rise to special sets of rules, even though the taxes are general in nature.

In the following brief discussion, emphasis is placed on those taxes which are peculiar to the life-insurance business and on the special rules applying to life insurance under taxes of a general nature.

The following outline indicates the subjects discussed:

Federal Taxes Payable by Life Insurance Companies

Federal income taxation of life insurance companies

Miscellaneous federal taxes

Taxes Payable by Companies to State and Local Authorities

Premium taxes

Miscellaneous state and local taxes

Taxes Payable on Policy Proceeds or on Other Policy Benefits

Federal income tax—Payments after insured's death

Federal income tax—Payments during insured's lifetime

Federal estate tax

Federal gift tax

State Taxation of Policyholders and Beneficiaries

Taxes Payable by Life Insurance Companies. *Federal Income Taxation of Life Insurance Companies.* The history of federal income taxation of life insurance companies, since the federal government was granted in 1913 by the Sixteenth Amendment the power to levy taxes on income, has been one of periodic statutory revision.

Before passage of the Revenue Act of 1921 life insurance companies were taxed under provisions applicable to ordinary commercial corporations. Gross income comprised all moneys collected, including premiums as well as interest, dividends, and rents. From gross income were deducted outgoing funds, including death claims, dividends, and other payments on policy contracts, as well as insurance expenses, taxes, depreciation. inter-

est on indebtedness, and additions to policy reserves. Tax was levied on the resulting net income. This approach is based on the fallacy that life-insurance premiums constitute "income" and that insurance-benefit payments constitute deductible expenses. This results in a distortion which tends to penalize the growing company as against the older company writing only sufficient new business to maintain stability.²¹ Potentially, such an older company might pay no tax at all, despite continued substantial investment earnings. In practice, wide fluctuation in the amount of tax collections resulted, as well as litigation as to what were proper deductions, and the method was discarded.

Under the Revenue Act of 1921 and later acts, a life insurance company has been taxed under special provisions which have recognized its real nature as a special type of company, which receives deposits from its policyholders in the form of premiums (to be invested and later paid out in the form of insurance benefits), and makes such expenditures as are necessary. The deposits are in large part represented by the policy reserve, with respect to which the company has, under its contracts, obligated itself to earn interest. Under this concept of the nature of a life insurance company, the company's gross income consists of its investment income, *i.e.*, interest, dividends, and rents received, from which investment expenses are properly deductible. Interest required on reserves is the principal further deduction, so that net income becomes essentially net investment income less interest required to maintain reserves. Recognition must also be given to interest on indebtedness. This concept, with important modification in 1942, has been the basis of income-tax provisions taxing life insurance companies from 1921 to the present time (February, 1951). Gains derived from the sale, redemption, or payment of securities are not taxed; nor may any losses resulting from such transactions be deducted in determining net taxable income.

²¹ Testimony of Bruce E. Shepherd, on behalf of the American Life Convention and the Life Insurance Association of America, before the House Ways and Means Committee, Feb. 13, 1950.

From 1921 to 1942 the tax was imposed essentially on net investment income less interest at a specified uniform rate, designed to represent the rate required to maintain reserves on an individual company basis, computed at a specified uniform rate (4 per cent under the 1921 Act; $3\frac{3}{4}$ per cent under the 1932 Act, with the stipulation that in any case where the actual rate exceeded $3\frac{3}{4}$ per cent the company could deduct at the actual rate up to 4 per cent). Commencing in 1942, the required interest was computed on an industry-wide basis and apportioned among the companies in relation to net investment income, giving 35 per cent effect to the actual rate assumed by a company in calculating its reserves, and giving 65 per cent effect to an assumed rate of $3\frac{3}{4}$ per cent. Since the deduction so arrived at was a uniform percentage of net investment income, applicable to all companies, the percentage varying from year to year, the net effect was that all companies were taxed on their total net investment income at a uniform low rate, varying from year to year. However, the required interest concept was preserved in the formula for arriving at the deduction percentage. Thus, during the entire period from 1921 on, life insurance companies have been taxed essentially on net investment income, with recognition given in one way or another to amounts necessary to maintain reserves required by law.

Prior to 1942 the net taxable investment income of each life insurance company was determined, in general, by allowing the following deductions from the gross amount of all interest, dividends, and rents received by it: (1) tax-exempt interest; (2) $3\frac{3}{4}$ per cent of the average amount for the year of all policy reserves required by law (4 per cent of reserves computed at rates of 4 per cent or higher); (3) 2 per cent of reserves held for future deferred dividends; (4) investment expenses; (5) real-estate taxes; (6) real-estate expenses; (7) depreciation; (8) interest paid on indebtedness; (9) credit for dividends received on stocks of companies subject to federal income tax.

Under the 1942 Revenue Act, regular corporate income-tax rates—normal-tax as well as surtax rates—apply to life insurance companies. Their net taxable income is determined by deducting

from the gross investment income (interest, dividends, and rents)—cash basis—(1) tax-exempt interest, (2) investment expenses, (3) real-estate taxes, (4) real-estate expenses, and (5) depreciation. As was true prior to 1942, the three last deductions relating to real estate are limited to real estate owned by the company but not occupied by it. However, unlike the previous law, the 1942 Act required interest included in gross income and the deductions for tax-exempt interest to be adjusted for amortization of premium and accrual of discount. Such adjustments are confined to interest on securities amply secured and not in default as to principal or interest, as determined by the N.A.I.C. rules for uniform valuation of securities.

In addition to the above specific deductions, the same credit for dividends received is allowed as in the case of ordinary corporations. Its effect is a further deduction equal to 85 per cent of such part of the dividends included in gross income as was received from domestic corporations which themselves are subject to the federal income tax. The deduction, however, may not exceed 85 per cent of the net income computed without benefit of this dividend credit.

Against the net income thus ascertained (i.e., against the "normal-tax net income" in the case of the normal tax and against the "surtax net income" in the case of the surtax) a *reserve-and-other-policy-liability credit* is allowed, taking the place of the former reserve-earnings deduction, the deduction for interest paid, and the deduction for deferred dividends. This is a flat percentage of the normal or surtax net income designed to represent the portion thereof needed by the company to satisfy its interest requirements. The percentage is the same for all companies and is announced each year by the Secretary of the Treasury (hence its common designation as "Secretary's ratio") on the basis of a formula purporting to reflect the ratio of aggregate interest requirements of all companies, as shown on their income-tax returns for the preceding year, to their total net investment incomes without deduction for tax-exempt interest. Certain adjustments in this ratio, as well as in the tax calculation of individual companies writing cancelable health-and-accident insurance, are required on account of such business.

Interest requirements, for the purpose of computing the reserve-and-other-policy-liability credit under the 1942 Act, include: (a) interest needed to maintain life-insurance reserves; (b) 2 per cent of reserves held at the end of the year for deferred dividends; and (c) interest paid on indebtedness.

(a) *Interest Needed to Maintain Life-insurance Reserves.* The amount of such interest is calculated by applying to the mean of each company's reserves at the beginning and end of the year (after increasing by 7 per cent all reserves computed on a preliminary-term basis) a weighted rate which takes into consideration the actual rate assumed by the company in calculating its reserves (given 35 per cent effect) and a flat rate of $3\frac{1}{4}$ per cent (given 65 per cent effect).

In order to qualify, reserves must be (1) actually held by the company, (2) required by express statutory provisions or by insurance-department rules promulgated in the exercise of a power conferred by statute (a company may use the highest aggregate reserve called for by any state law or regulation), and (3) peculiar to life insurance and dependent upon interest earnings for their maintenance. Such reserves include the regular insurance and annuity reserves, reserves for accidental-death and disability benefits, and reserves for supplementary contracts that involve life contingencies. They do not include reserves for taxes, premiums paid in advance, matured claims not yet paid, unclaimed surrender values or canceled policies, supplementary contracts not involving life contingencies, or dividends.

(b) *Two Per Cent of Reserves Held at the End of the Year for Deferred Dividends.* In order to qualify, the dividends for which such reserves are maintained must have been deferred for at least 5 years from the date of issue of the policy and must not become payable in the year immediately following.

(c) *Interest Paid on Indebtedness.* This covers also all amounts in the nature of guaranteed or "excess interest" dividends paid on supplementary contracts not involving life contingencies.

The formula for computation of the reserve-and-other-policy-liability credit, giving 65 per cent effect to an assumed interest rate of $3\frac{1}{4}$ per cent resulted in a substantially lower deduction

known as the Revenue Act of 1950. Permanent legislation will doubtless follow further studies of the entire problem.

Miscellaneous Federal Taxes. Life insurance companies, like other taxpayers, are also subject to the miscellaneous excise taxes imposed by the federal government, such as stamp taxes on the transfer of securities and deeds; the tax on railroad and other transportation; and the excise on telephone, telegraph, cable, and radio communications.

Like other employers, life insurance companies must pay the employment taxes imposed on employers for social-security purposes. During the period since the federal Social Security Act became effective in 1937, the Treasury Department has taken the position that life-insurance soliciting agents and general agents, under the agency contracts of most companies, are independent contractors rather than employees, and therefore not subject to the Act. In cases where the Treasury Department has so held, the companies have not been required to make contributions on behalf of agents, nor have the agents themselves been required to make individual contributions.

Under the Social Security Revision Act enacted in August, 1950, a "full-time life-insurance salesman" is to be treated for social-security purposes as an employee, while brokers and some others are brought under the act as self-employed individuals.

Taxes Payable by Companies to States and Local Authorities.
Premium Taxes. The contribution to the cost of state government currently required from life insurance companies in the United States through the medium of state premium taxes is inordinately large, amounting to more than 100 million dollars per year. Originally such taxes were enacted in the early years of life insurance in this country to protect home-state companies from the competition of out-of-state companies, and were levied on a punitive basis on premiums payable to companies of other states. Today many states tax home companies and out-of-state companies alike, but a number of states apply premium taxes only to out-of-state companies or, in a few instances, afford their domestic companies a preferential rate of tax. Only a small portion, estimated some years ago at less than 5 per cent, of

premium-tax collections are used for costs of supervision, almost all of the amounts collected going into general revenue. At present and for some time past the most common rate of premium tax has been 2 per cent, the lowest rate being $1\frac{3}{4}$ per cent. One state charges a rate of 4 per cent, but, allows, as do some other states, a reduced rate to companies that invest a certain percentage of their assets in the state.

Such taxes represent a penalty on savings, similar to taxes that might be levied on savings-bank deposits, and are difficult to justify except as an easy means of collecting substantial revenue. They are paid, like other expenses, indirectly by the policyholder in the form of higher premiums or lower dividends, but policyholders as a group have not made effective protest to them.

Despite these objections, premium taxes are so well established in state revenue systems and produce such substantial amounts of easily collected revenue that any hope of relief is unrealistic, though efforts to resist proposed rate increases may be effective.

One factor that has served to increase the amount of taxes paid in recent years is that an increasing number of states are taxing annuity considerations as well as life-insurance premiums. This has been a source of considerable litigation, since, although the court decisions are not entirely consistent, some have held that annuity considerations may not be taxed under the category of premiums, but only under specific statutory provision. In any event, by statutory provision or otherwise, about half the states now tax annuity considerations, a few taxing them at a lower rate.

Retaliatory provisions in nearly all states require a company from a state with a *higher* premium-tax rate to pay at the rate charged by its home state. Such provisions result in inequities between policyholders. These provisions have, however, served to some extent to restrain state legislatures from sharply increasing premium taxes, since retaliatory provisions of other states would result in the increased rate of a particular state applying throughout the country on business written by home companies of that state. Subsequent to the United States Supreme

Court's decision in the *South-Eastern Underwriters Association* case, doubts arose as to the constitutionality of retaliatory premium-tax provisions. These doubts were ended by the Court's decision upholding the Kansas retaliatory law.²²

In the determination of taxable premiums, it would seem equitable for dividends paid or credited on participating policies to be deducted. Otherwise stock companies would pay lower taxes than mutual companies. Unfortunately, however, there is no uniformity, a few states allowing no deduction for dividends, and one state limiting the deduction to dividends applied toward payment of premium, although about half the states permit all dividends to be deducted.

Canada now levies a 2 per cent premium tax, with allowance of credit for premium tax paid to individual provinces. Commencing in 1941 and for the duration of the war, all provinces ceded to the Canadian federal government their right to levy premium taxes under Dominion-Provincial agreements. The continuance of these agreements has been consented to by all provinces (including Newfoundland) except two, the "nonconsenting" provinces being Quebec and Ontario. These two provinces levy premium taxes at a 2 per cent rate. Dividends are deductible under the federal tax as well as the Ontario and Quebec taxes, while annuity considerations are not taxed.

Miscellaneous State and Local Taxes. Miscellaneous taxes and fees paid by life insurance companies to states include license fees for admission to do business in the state, fees for filing annual statement or other required documents, and annual fees for agents' licenses. Companies also pay fees for the annual certificates of reserve valuation and the cost of the insurance department's triennial examinations, as well as charges for compulsory advertising of their financial condition.

The states that levy income taxes on corporations usually exempt life insurance companies paying state premium taxes. States not exempting life insurance companies, however, allow sufficient deductions or admit premium taxes as an offset against

²² See p. 474.

income tax, so that little or no income tax is payable. In some states, however, where the rate of premium tax is low for home-state companies, those companies may pay a substantial income tax.

Like other purchasers of commodities, life insurance companies are liable in some states for sales taxes on supplies and equipment purchased in the state, or for compensating use taxes for supplies purchased elsewhere and shipped into the state for use there.

Like other employers, life insurance companies make contributions under state unemployment-compensation acts based on wages paid to employees. Life-insurance soliciting agents remunerated solely by commissions, whose methods and hours of work are not subject to control by the company with which they place the insurance solicited, have generally not been considered "employees" within the scope of unemployment-compensation laws, and contributions have not been made with respect to commissions paid them.

Like other property owners, life insurance companies pay local property taxes on real estate. In the past, such property has usually comprised the home-office building and property acquired on mortgage foreclosure. Now that the companies, under some state laws, are permitted to purchase real estate as an investment, real-estate taxes will probably become a more significant factor in the total taxes paid.

Cities in a few states levy municipal license taxes, usually consisting of fees for agents' licenses, but sometimes directed against the company, in a few instances as a municipal premium tax.

Taxes Payable on Policy Proceeds or on Other Policy Benefits. Payments made by life insurance companies may be subject to federal and, in some instances, state taxes, the type of tax depending on the circumstances of the payment.

Federal Income Tax. Payments after Insured's Death. Amounts received under a life-insurance contract paid by reason of the death of the insured in a single sum or otherwise have been

consistently exempted from federal income tax by statute,²³ but if the proceeds are held by the company under an agreement to pay interest thereon, the payments of interest are subject to tax. Under the statute, instalment payments of life-insurance death proceeds (as distinguished from interest paid on proceeds held at interest) have been treated as exempt, except for a few years during which the Bureau of Internal Revenue ruled²⁴ that an arbitrarily determined "interest" element of such instalments was taxable, since amounts paid out under an instalment settlement frequently exceed the lump-sum death payment which could have been elected. The courts²⁵ rejected this ruling, and the Bureau was forced to retract it, first, as to instalment settlements elected by the insured,²⁶ and later, regardless of whether the settlement was elected by insured or by beneficiary.²⁷

Having failed to receive judicial support for its position, the Bureau attempted to secure a change in the statute, and the Tax Revision Bill of 1950 (H.R. 8920), as passed by the House, contained a provision to make the "interest" element in each instalment subject to tax, despite the House Ways and Means Committee minority statement that "Existing law excludes this interest element and we feel that the wise social policy of discouraging lump-sum settlements in favor of instalment payments outweighs the \$5,000,000 additional revenue alleged to be collected under the majority proposal."

The Senate Finance Committee eliminated this provision from the bill, and it was not contained in the Revenue Act of 1950 as finally enacted, so that such instalments continue to be exempt from tax.

One exception²⁸ exists to the exemption from income tax of

²³ Internal Revenue Code, Sec. 22 (b) (1).

²⁴ G.C.M. 13796, Oct. 2, 1934, affecting calendar years beginning Jan. 1, 1934; Regulations 94, Art. 22 (b) (1)-1 (1936).

²⁵ *Commissioners v. Winslow*, 113 Fed. (20) 418; *Commissioners v. Bartlett*, 113 Fed. (20) 766; *Commissioners v. Buck*, 120 Fed. (20) 775; *Allis v. La Budde*, 128 Fed. (20) 838; *Kaufman v. U.S.*, 131 Fed. (20) 854; *Commissioners v. Pierce*, 46 Fed. (20) 388 (1944).

²⁶ T.D. 5231, Feb. 23, 1943, G.C.M. 23523 revoking G.C.M. 13796.

²⁷ T.D. 5515, May 16, 1946.

²⁸ Internal Revenue Code, Sec. 22 (b) (2).

lump-sum death proceeds of life insurance. Where the policy was acquired by a transferee (other than the insured himself and other than a successor corporation in a tax-free reorganization) for a valuable consideration, only the actual value of the consideration, together with the amount of premiums subsequently paid by the transferee, will be exempt from tax. This provision is purportedly based on the assumption that life-insurance policies are purchased from the previous owner as a speculation and that any profits therefrom should be taxed. Such transactions are now extremely rare. The practical effect of this tax provision is the uneconomic replacement of existing insurance where the insured remains insurable after a business transfer.

A further exception²⁹ to the general rule exempting life-insurance death proceeds from income tax concerns policy proceeds used to pay or provide for alimony that is taxable to the divorced wife. If the alimony is provided through the medium of a policy of life or endowment insurance, a portion of the policy proceeds may, under some circumstances, be regarded as taxable to the divorced wife.

Federal Income Tax—Payments during Insured's Lifetime. Payments made by the company during the insured's lifetime include: (1) disability payments; (2) dividends; (3) cash-surrender values; and (4) proceeds on maturity as an endowment. Annuity payments, whether made under single-premium immediate-annuity contracts, annual-premium retirement-annuity contracts, or under settlement of insurance surrender values in instalments where the mode of payment is regarded for income-tax purposes as an "annuity," are treated under special rules.

Disability payments are exempt from income taxes.

It is a basic principle of federal income-tax law in the United States that a taxpayer is entitled to recover his cost tax-free. This rule is specifically applied to life insurance in a provision of the Internal Revenue Code³⁰ which states that payments

²⁹ Internal Revenue Code, Sec. 22 (b) (2), and 22 (k).

³⁰ Internal Revenue Code, Sec. 22 (b) (2).

made under a policy of life or endowment insurance are not taxable until the cost of the policy has been recovered tax-free. This provision applies to dividends received by a policyholder, in cash or otherwise, although the Bureau of Internal Revenue contends that interest credited on dividend accumulations and available for withdrawal without restriction is taxable annually under the section taxing receipts of interest. This provision also applies to the payment of a policy's cash-surrender value. Normally the cash-surrender value will be less than the aggregate amount of net premiums paid, *i.e.*, premiums less dividends. Sometimes, however, as in the later years of an endowment policy, the surrender value will exceed the cost, in which case the excess is taxable. The amount paid on maturity of an endowment will usually exceed the net cost, and when paid in cash, results in a taxable excess.

When a cash-surrender value or endowment-maturity proceeds are left with the company under an agreement to pay interest, the payments of interest are taxable. When such proceeds are left with the company under an agreement to pay them out over a specified number of years, such payments are treated as payments under a policy of life or endowment insurance and are tax-free until the cost has been recovered.³¹ When such proceeds are left with the company under an agreement to pay a single- or joint-life income, the payments are treated for tax purposes as annuity payments.

Prior to 1934, amounts received under annuity contracts were not subject to federal income tax until the total of all payments received equaled the amount of the premiums or consideration paid in; thereafter the annuity payments were taxable in full. In 1934 Congress enacted a statute³² requiring an annuitant to include each year in gross income 3 per cent of the cost of the annuity, until such time as the total of amounts received tax-free equaled the premiums or consideration paid in; thereafter the annuity payments are taxable in full. This basis of taxation,

³¹ *Thornley v. Commissioners*, 2 T.C. 220 (1943); T.D. 5684.

³² Now Sec. 22 (b) (2) of the Internal Revenue Code.

which is still in effect, was designed to increase the amount of tax revenue currently derived from annuitants, and was based on the fact that each payment under an annuity consists partly of principal and partly of an increment arising from interest earned by the company. It was still assumed that the annuitant taxpayer would eventually recover his cost tax-free in the exempt portions of each annuity payment. Unfortunately, the arbitrary assumption that 3 per cent of the cost fairly reflects the average "interest" increment in each year's annuity payments is no longer realistic. In order to recover his cost tax-free under an annuity purchased at present-day rates, the annuitant who must include 3 per cent of cost in gross income each year would, in many instances, have to live far beyond the expectation of life. It has been proposed that Congress enact the "Canadian expectancy" method of taxing annuities. Under this method the cost of the annuity is divided by the number of years of the annuitant's expectation of life under specified mortality tables to determine an annual exemption. Only the excess received each year above this annual exemption would be includable in gross income. Thus, if the annuitant lives out his expectation of life, he will have recovered his cost tax-free.

Federal Estate Tax. The federal estate tax is a tax levied on the transfer of a person's property at his death and applies generally to all property subject to the decedent's control at the time of his death, whether or not it passes through his probate estate, i.e., through the hands of his executors or administrators.

Where life-insurance proceeds are payable at the insured's death to or for the benefit of his executors or administrators, the proceeds are subject to estate tax.

Where proceeds are payable to a named beneficiary (either in a lump sum or in instalments), the value of the proceeds at the insured's death is subject to estate tax under the following conditions: (1) if premiums had been paid by the insured, either directly or indirectly; or (2) if the insured at death possessed any incidents of ownership in the policy, such as the right to change the beneficiary, borrow on the policy, and the like,

whether such incidents of ownership were exercisable by the insured alone or in conjunction with any other person.

When life insurance has been transferred, although the retention of a reversionary interest is not regarded as an incident of ownership, for the incident of ownership test, its retention may result in tax under special provisions regarding transfers to take effect at death. If at death the insured possessed no incidents of ownership in the policy, and if only part of the premiums were traceable to him, then the taxable portion of the proceeds is that portion of the total proceeds represented by the ratio of premiums he had paid to the total premiums paid under the policy.

One exception to this latter rule exists, applicable only to policies the ownership of which had been transferred by the insured prior to 1941: if in such cases the insured possessed no incidents of ownership in the policy after Jan. 10, 1941, his earlier payment of premium is disregarded. For purposes of this exception, however, if the transfer provisions contained terms under which the policy or its proceeds might revert to the insured or his estate, he is considered to have retained an incident of ownership, but only if (1) the reversionary interest at some time after Jan. 10, 1941, had a value in excess of 5 per cent of the value of the policy, and if (2) the reversionary interest arose by the express terms of the policy or other instrument and not by operation of law.

When life insurance is transferred by the insured for a consideration equal to its entire value, the proceeds at the insured's death are not taxable in his estate. When life insurance on which the insured has paid premiums is transferred by him as a gift, however, a portion of the proceeds will be taxable in his estate, because of the "premium-payment test," even though he has fully parted with ownership of the policy. For this reason, life insurance is not currently as freely transferable as are other forms of property, and efforts have been made to eliminate the premium-payment test as a criterion of estate taxability.

Under present-day flexible practices, a policy may be applied for on a *proposer* form of application by someone other than the insured, who has an insurable interest in the insured's continued

life, with all ownership rights vested in the purchaser. Under such a policy, the proceeds at the insured's later death are not, under current law, taxable in the insured's estate; but if the owner predeceases the insured, some value is taxable in the owner's estate.

Prior to the 1942 Revenue Act, the first \$40,000 of insurance proceeds payable to a named beneficiary were specifically exempt from tax. The 1942 Act removed this exemption so that now insurance proceeds, like other property, are exempt only to the extent of the general property exemption, currently in the amount of \$60,000. The 1948 Act, in order to equalize the federal estate tax in common-law and community-property states, enacted a *marital deduction*. Property passing from the decedent either directly to his or her surviving spouse, or otherwise so as to qualify for the marital deduction, may be deducted up to approximately one-half of the total estate before applying the \$60,000 general property exemption. Consequently, where plans are made to take full advantage of the marital-deduction provision, an estate as large as \$120,000 may pass free of federal estate tax. Most companies are prepared to write benefit settlements designed to qualify proceeds for the estate-tax marital deduction.

Federal Gift Tax. The federal gift tax, in effect since June 6, 1932, is a tax upon the transfer of property by gift, at graduated rates somewhat lower than the corresponding federal estate-tax rates. Its primary purpose is to reach transfers made during the donor's lifetime that might otherwise escape taxation. Gifts in the aggregate amount of \$30,000, made during the donor's life, are exempt from tax. In addition, the first \$3,000 of gifts of "present interests" (as distinguished from gifts of "future interests") made to any person by the donor in any one year are excluded from tax. Under the gift-tax marital deduction established by the Revenue Act of 1948, a donor may, without incurring gift-tax liability, make gifts in any one year to as many others as he pleases of \$6,000 in value per donee, provided that his wife consents to one-half of the gift being treated as though made by her. For a gift to be regarded as one of a "present in-

terest," immediate beneficial enjoyment of the property given must be available to the donee. This distinction has significance only in applying the annual exclusion, since the \$30,000 lifetime exemption applies to all gifts.

The irrevocable transfer (other than a bona fide sale) of a life-insurance policy, either by assignment or by designation of an absolute beneficiary, constitutes a gift. Likewise, each premium payment on a life-insurance or annuity policy where ownership is vested in someone other than the payor constitutes a gift.

The purchase by a parent or grandparent of an annual-premium policy on the life of a child or grandchild, with ownership rights completely vested in the child or grandchild insured, provides a frequently used method of establishing a program of recurring gifts, designed to take advantage of the gift-tax exclusion provisions.

State Taxation of Policyholders and Beneficiaries. For state inheritance-tax purposes, life-insurance policies made payable to the estate are subject to tax, while policies payable to named beneficiaries are, in the majority of states, exempt from tax. A growing number of states, however, by specific statute or otherwise, tax proceeds to named beneficiaries.

For state income-tax purposes, annuities in some states are subject to tax only when the cost has been recovered tax-free, the pre-1934 federal rule. Other states have by statute adopted the federal 3 per cent rule. One state, Massachusetts, whose income tax was originally enacted to take the place of a property tax on intangible personalty, taxes all annuity income at the rate of $1\frac{1}{2}$ per cent, a rate intended to be comparable to the rate of 6 per cent levied on dividend and interest income.

Life-insurance death proceeds paid in one sum are generally exempted from state income taxes, as are amounts received by the insured as a return of premiums paid by him, either during the term or at maturity or surrender of the contract. Life-insurance death proceeds payable in instalments are exempt from tax in most states, while interest payments are generally taxable.

CHAPTER XX

LEGAL ASPECTS OF LIFE INSURANCE

The application of the general rules of law to life-insurance contracts and to life insurance generally involves many doubtful and difficult questions. It has already been pointed out in Chap XIX that, because of its technical nature, size, and importance, life insurance has been the subject of a vast amount of special legislation by the states. These special laws modify, in many instances, the general rules of law, and it is therefore not always possible to arrive at a solution of questions affecting life-insurance policies merely from a knowledge of general legal principles. In this chapter will be outlined the application to life insurance of some of the most important of these principles as modified by special legislation. In attempting to apply general rules to particular cases the greatest care must be exercised to ensure that all the circumstances of the case have been taken into account. One or two broad principles may first be mentioned before taking up the general rules of law in their application to the contract of life insurance.

At one time life insurance was considered to be immoral, as "gambling in human life." This idea arose because policies were taken where no insurable interest existed and where the insurance was effected solely for speculative purposes. Life insurance, however, is now chiefly used and properly regarded as an economic necessity and when properly understood cannot be considered as a "wager" even though a large financial gain may result from the early death of the insured. A wagering contract is one where profit is sought to be made through chance, while the true object of life insurance is rather the opposite, the avoidance of loss arising through chance. A life-insurance policy, therefore, unless in the absence of a legitimate insurable interest,

is not a wagering contract, which would be unenforceable on grounds of public policy.

Again, a life-insurance policy is not a contract of indemnity as are most other forms of insurance. A contract of indemnity is entered into for the sole purpose of making good a loss incurred. The value of a life, however, is incapable of estimation and, except in a limited sense, cannot be "made good" by insurance. An important distinction which thus arises between life insurance and other forms of insurance is that the principle of "subrogation," under which the insurer (*i.e.*, the company) takes the right of recovery against a third party causing the loss, has no application to life insurance.

Another broad principle which must be borne in mind in connection with all legal questions affecting life insurance is that, in theory at least, a high degree of good faith is required because of the special nature of the contract. While this is true of contracts generally, it has a special bearing on life-insurance contracts because of the relations between the parties and the importance of a full and complete understanding between them. Thus, the company must rely, in an unusual degree, on the truth of the statements made by an applicant for insurance, many of which it has no means of verifying, while the latter, because of his lack of technical knowledge, depends on the good faith of the company to ensure that all the terms of the contract are fair and equitable.

Two general branches of law are of particular importance in relation to life insurance—the law of contract and the law of agency.

Application of the General Rules of the Law of Contract. A life-insurance policy is a contract between two parties, the company and the insured, which calls for the performance of certain acts by each of the parties and which, in the absence of special legislation, will be interpreted and governed by the ordinary rules of the law of contracts. The legal requisites of a valid contract, briefly stated, are as follows:

1. There must be an agreement between the parties based

upon an *offer* made by one party and an *acceptance* of that offer in the same terms by the other party.

2. The contract must be in legal *form*.

3. It must be for a legal *purpose*.

4. To be legally enforceable it must be based upon a *valuable consideration*.

5. The *parties* to it must be *legally capable* of contracting.

6. There must be no *misrepresentation* of a material fact and no intentional misstatement of an immaterial fact on which the parties rely.

The first four of these requirements do not involve any points of special importance in connection with life-insurance policies. The application for insurance is the offer of the person to be insured. This offer is accepted or rejected by the insurance company, and, if accepted, the precise terms of the agreement between the parties are set forth in the policy. If acceptance is made in terms different from those contained in the application, as, for example, where a different kind of policy is offered from that applied for, a revision of the terms of the application is necessary unless this possibility has already been anticipated and provided for in the original application.

The policy is always in writing properly executed, but in the absence of special legislation a valid contract of life insurance could be made orally. The laws of the several states, however, which require policy forms to be approved by the state authorities and the inclusion of specified standard provisions and tables of cash-surrender values, and so forth, necessitate a written policy. In any case, the nature of the contract is such that an oral "policy" would, in many ways, be quite unsuitable.

The purpose of a life-insurance policy is legal if an insurable interest exists (to which requirement further reference is made below), and there is always a valuable consideration consisting of the premiums paid and to be paid for the insurance.

Legal Capability of Parties. There are two parties to the contract, the insurer (the company) and the insured. The latter is usually, but not necessarily, the person whose life is insured. Where one person effects a policy on the life of another, the

former is sometimes referred to as the *assured*, and he is then the second party to the contract. No third party may take any rights under the contract except by obtaining such rights in a legal manner, as by assignment. Thus, no right to receive any part of the proceeds of the policy is gained by a person who voluntarily pays a premium. Nor is a person whose life is insured by another a party to the contract.

The relation between the insurer and the insured is that of debtor and creditor. The insurer is not in any sense a trustee in respect of premiums paid by the insured and need not, therefore, render any accounting thereof. The duty of the insurer is merely to carry out its contract. This principle has important applications in practice. For example, in the case of participating policies the company is under no obligation to prove to a policyholder by an accounting that the dividends have been properly computed. In such matters the directors have wide discretion, subject, of course, to the laws of the state and the regulations of the state authorities.

Competency of the Insurer. In the absence of special legislation an individual is capable of being an insurer. State laws, however, require the formation of a corporation and, by the various regulations imposed, render it illegal for an individual to grant life-insurance policies. While in the early days of life insurance it was customary for individuals to engage in the business of insuring lives, such an arrangement is not suitable. An individual has no permanency, nor could a contract be made with an individual with the security of fulfilment which is furnished by a corporation. Moreover, insurance other than for short periods would introduce many practical difficulties. Policies issued by individual insurers were invariably short-term contracts providing insurance usually for not more than 1 year, and even these were generally guaranteed by a number of individual insurers.

The only question which can arise with regard to the legal competency of a corporation (*i.e.*, a life insurance company) is whether the corporation has complied with all the laws of the states within which it does business. Usually no doubt exists as

to such compliance although, in states requiring filing and approval of policy forms and other blanks, questions of legality may occasionally arise.

Failure of a company to comply with such requirements (as by inadvertence) would, however, in all probability not affect the legal relations between policyholders and the company. For example, a contract illegally issued, as in the case of failure to file the policy form, would remain binding as between the company and the insured, the company rendering itself liable to whatever penalty was imposed by the statute for noncompliance.

Competency of the Insured. The question of the legal capability of the person to whom the policy is granted is of greater practical importance. Not only must the insured (or assured) be legally capable of entering into a contract, but there must be an insurable interest in the life of the person whose life is insured. Only two classes of incompetent persons need be discussed, alien enemies and "infants."

Aliens. A contract made with an alien friend is valid to the same extent as a contract made with a citizen; a contract made with an alien enemy is void. The only difficulty arises where a contract has been made with an alien friend who subsequently becomes an alien enemy. In that event it may be impossible for the holder of the policy or for the company to carry out its terms, and questions may arise as to the status of the policy. The rulings of the courts in such cases have been diverse. The United States Supreme Court has held that, when the policyholder becomes an alien enemy, the contract is terminated, and the reserve at the date of failure to comply with the terms of the policy is payable to the owner of the policy as of that date. This rule has, however, not been followed by all states. Under the "Connecticut rule," for example, the nonforfeiture provisions of the policy apply as in the case of an ordinary lapse, while the "New York rule" merely suspends the policy and permits subsequent reinstatement. Both these state rules are open to criticism. The former works an obvious hardship on the insured. The latter rule may place the company at a disadvantage since it permits a selection against the company by those who revive

their policies. When an alien enemy is able to continue payment of premiums, as, for example, where the company maintains a branch office in the foreign country, these questions do not generally arise.

Infants. An infant, *i.e.*, a person under the age of twenty-one years (or, in some states, a female under the age of eighteen years), is not incapable of contracting; but such contracts are not enforceable, and an infant may in general repudiate contracts made in infancy, with the exception of contracts for necessities. Under the general rule of law, therefore, while there is nothing *illegal* in the issue of a life-insurance policy to a person not of legal age, such a policy could later be repudiated by the insured, and the company might be compelled to refund the premiums paid although insurance protection had been furnished in the meantime. Some courts would, no doubt, allow the insured to recover only the cash value, if any, or the reserve, but this would depend on the circumstances of the case. Because of the need for, and the benefits of, life insurance, some states, by special legislation, have rendered infants of not less than a specified age competent to effect a valid contract of life insurance, and for that special purpose such infants are on the same footing as other persons. For example, in the state of New York a person not less than fifteen years of age (nearest birthday) may legally effect a valid and enforceable life-insurance contract. Policies issued on the applications of children below that age (as is commonly done), although not illegal, are not enforceable by the company.

Insurable Interest. In considering the question of what constitutes a sufficient insurable interest two classes of policies must be considered: (1) policies on the life of the person applying for the insurance; (2) policies on the lives of third parties.

It is recognized that every person has an insurable interest of unlimited extent in his own life. This does not mean, of course, that anyone can secure unlimited insurance on his own life, since no company will issue a larger amount than seems suitable to the circumstances and means of the applicant. Sometimes a person takes a policy on his own life and immediately assigns it

to another. A policy of life insurance is personal property and as such is freely assignable. If a policy is validly effected in good faith and not as an evasion of the rule requiring an insurable interest and is subsequently assigned, there is nothing illegal in such a transaction. On the other hand, if the assignment can be proved to be merely a subterfuge to evade the rule of law requiring an insurable interest, such a policy would be void *ab initio*. The difficulty under practical conditions would be to prove that the policy was not effected in good faith. If there is any indication at the time of application that an assignment is contemplated, the insurance company would usually require evidence of the insurable interest of the prospective assignee where no such interest was apparent. A similar situation arises where the applicant names a beneficiary having no relationship to the insured that would justify his nomination as beneficiary and where the beneficiary is to be given all rights in the policy. In such circumstances the company would normally require an explanation and evidence of insurable interest (except in Texas there is no *legal* requirement that the beneficiary have an insurable interest).

Policies on the life of the person applying for the insurance involve, as a rule, no question of insurable interest. It is when the policy is on the life of a third party that such questions usually arise. In such cases it may be laid down as a general rule that there is an insurable interest *when the person effecting the insurance has a reasonable expectation of financial benefit from the continuance of the life of the person to be insured or of financial loss from its cessation*. The interest need not be capable of exact pecuniary estimation, nor need it amount to a legal right; but it must be based on value and not on mere sentimental considerations. An important point is that, contrary to the rule which applies to other forms of insurance, an insurable interest sufficient to be the basis of a life policy need exist only at the time when the policy is effected and need not necessarily still continue at the time a claim is made. One reason for this rule is that to require termination of the policy upon cessation of the insurable interest might involve financial loss, particularly

where the policy had been only a short time in force. In most other kinds of insurance little loss is involved by a cancellation of the policy, the cost being on a year-to-year basis and an adjustment of premiums being made for any unexpired period. Thus, a creditor who has insured the life of a debtor to secure payment of his debt and who has paid the premiums on the policy may continue the policy in force after the debt has been paid. In such circumstances, however, the debtor usually pays the premiums and takes over the policy on repayment of the debt.

An insurable interest may arise from relationship or as the result of commercial transactions. Relationship does not, in itself, constitute an insurable interest. Thus, a sister has no insurable interest in the life of her brother merely because of relationship; but if her brother supports her, she has an insurable interest in his life although she is not legally entitled to such support. Where relationship exists, an expectation of financial benefit, however remote, is usually sufficient to establish an interest. Thus, a father may insure the life of his minor child because of the legal right to earnings during minority. A husband has an insurable interest in the life of his wife because of the value of her services, and a wife has an insurable interest in the life of her husband because of his support, whether he actually supports her or not. In this case the support is a legal right, but it is immaterial whether it is a legal right or not.

The question of insurable interest in the case of policies taken for business or for other similar reasons introduces other considerations. It has been seen that, where the interest arises from relationship, the amount of the policy is usually limited only by the circumstances of the applicant and the willingness of the insurance company to issue it. Where the interest arises from other considerations, the amount of insurance must correspond with reasonable accuracy to the extent of risk involved. An insurable interest in connection with commercial transactions may arise from such relations as those between creditor and debtor, between partners, between employer and contractor, or between surety and principal. A common case is where a firm or corporation desires to insure the life of a valuable officer or employee.

Many corporations carry insurance on the life of the president of the corporation or on some other person whose death might affect the profits of the business. The amount of the insurable interest in such cases is largely a matter of judgment, but where there is obviously a legitimate reason for insurance a liberal view will usually be taken on the question of amount.

Where insurance is taken by a creditor on the life of a debtor upon which the debtor pays the premiums, the creditor is entitled, in the event of the death of the debtor, only to the amount of his debt, together with interest and expenses; similarly, if the debtor repays the debt, he would, as a rule, be entitled to an assignment of the policy. But where the premiums were paid by the creditor out of his own funds he would generally be entitled to the entire proceeds of the policy, provided that they were not unreasonably in excess of the amount of the debt with interest plus the premiums that had been paid.

Misrepresentations and Misstatements. The consent of the parties to a contract assumes the truth of the statements on which they rely in entering into the contract. Generally the contract is voidable if the insured in the application unintentionally makes a material misrepresentation or intentionally makes any misstatement. The contract is void in event of fraud, mistake, or absence of good faith, except where the contrary is provided by special statutes or by the terms of the contract itself as, for example, by an incontestable clause. Where there has been fraud, mistake, or absence of good faith, there has been no real consent of both parties. Most life-insurance policies are, by their terms, incontestable after the lapse of a stated period from the date of issue, except for nonpayment of premium and sometimes for other specified reasons. During this period there is an opportunity to rectify any mistake. The courts have generally held that after the expiry of the period of contestability the policy cannot be rescinded by the insurer because of fraud in obtaining it. Such a rule seems contrary to the most elementary principles of justice and operates to protect dishonest persons at the expense of others. However, the rule is founded on the principle of public policy that it is well that beneficiaries, after the ex-

piration of a specified time, may rest secure in the knowledge that the validity of the life insurance on which they rely is no longer subject to question, even though the operation of the incontestability clause may in some instances protect dishonesty. The general principle invalidating contracts in the absence of an equality of knowledge is therefore applicable only to a limited extent in the case of life-insurance contracts since any attempt to avoid the contract for such reasons must be made within the period allowed.

Concealment. Two special aspects of the general requirement of equality of knowledge are of particular interest in relation to life insurance. These relate to *concealments* and *misrepresentations*. Concealment of material facts may or may not be fraudulent, since doubt may exist as to the materiality of the matters concealed. It is the duty of the applicant to disclose, in the first place, all facts about which inquiry is specifically made in the application blank or by the medical examiner. The fact that inquiry is made about a matter raises the presumption of its materiality. The usual cases that arise in this connection are those where an answer is incomplete or where an answer is omitted. An incomplete answer undoubtedly amounts to concealment. For example, if the applicant is asked, "What diseases have you had in the past 5 years?" and in the reply states that he has had influenza, making no mention of the fact that he has also had typhoid fever, he is concealing a material fact, which will render the policy voidable within the period of contestability. Where, however, an answer is omitted, it is the duty of the company to require an answer, and if it issues the policy without doing so it will be considered to have waived the answer to the question. The applicant need not disclose facts not inquired about that are known or that should be known to the company. In applying this rule it is not permissible to assume that the company has made inferences which would be necessary to arrive at the information in question, nor is it presumed that information published in newspapers is necessarily known to the company. Matters of public knowledge, however, such as that a

state of war exists in a country to which the applicant is going, would be presumed to be known to the company.

It is to be noted that, in general, the facts concealed must be material in order to have any effect on the validity of the contract. The general criterion of materiality is the question: Would knowledge of the facts or information concealed have affected the action of the company in accepting or rejecting the risk? If such knowledge might have caused the company to refuse to issue a policy or to offer special terms, its materiality is established, and the company then would have the right to rescind the policy unless the period of contestability had expired.

Warranties and Representations. In addition to the question of concealments, it is important to note the general interpretation to be placed upon the statements of the applicant. Under the laws of most states all statements made by the applicant, whether in the application blank or to the medical examiner, are considered, in the absence of fraud, to be representations and not warranties. In the absence of such special laws it might be agreed that the statements of the applicant would be considered warranties. This, as has already been explained, was formerly the usual practice. Such a provision would, however, give an undue advantage to the company because of the absence of technical knowledge on the part of most persons insured. A warranty must be literally true, and a breach of warranty would be sufficient to render the policy void whether the matter warranted were material or not and whether or not it had in any way contributed to the loss. A representation need be only substantially true. It is evident that many of the answers required in an application for life insurance cannot be answered with literal accuracy. For example, the questions "Are you free from disease?" or "Have you suffered injury of any organ?" can be answered only with approximate truth. For the company successfully to deny liability under a policy because of a misrepresentation, the matter complained of must be material, and the criterion of materiality is the same as that stated above with regard to concealments.

In Missouri the law provides that a misrepresentation not only

must be material but must have related to a matter which contributed to the loss. Thus, if an applicant states that he has been in a hospital, the fact being that he has been in a lunatic asylum, and if, within the period of contestability, he dies as the result of a railroad accident, the company would be liable under the Missouri law, since the matter misrepresented was not a factor contributing to the death of the insured. This is undoubtedly a bad rule, since, if the company had known of the matter which was misrepresented, it would probably not have accepted the application and would never have been liable on the risk. In Massachusetts, statements of the insured that are claimed to be misrepresentations either must be proved to have been fraudulent or must relate to matters which have contributed to the loss. The virtual impossibility of *proving* fraudulent intent renders this rule practically equivalent to the Missouri law. In Alabama the statute is similar, requiring proof that the alleged misrepresentation was made with intent to deceive or that the matter misrepresented increased the risk. In accordance with the statutes of other states the fact that any circumstances which would have influenced the decision of the company in accepting or rejecting the application have either been concealed or misrepresented is sufficient (apart from the operation of an incontestable clause) to void the policy, even though such circumstances have not contributed to the death of the insured. This is the only fair rule.

Application of the General Rules of the Law of Agency. The rules of agency law are of considerable importance in life insurance, since the business of life insurance companies is transacted entirely through the medium of *agents*. An agent, in the legal sense, is a person who acts for another, and, in that sense, officers of the company, soliciting agents, medical examiners, branch managers, and so forth, are all agents of the company.

An agent, in the legal sense, may be either a *general agent*, having power to do all that his principal could do if he were present, or a *special agent*, having power to perform certain specified acts only, such as to solicit applications for insurance or to make medical examinations on behalf of the company. The

president and other executive officers may be considered to be general agents of the company in the legal sense since they act and have authority in all matters on behalf of the stockholders of a stock company or of the policyholders of a mutual company. The "general agents" in charge of a company's business in particular localities are not general agents in the legal sense, since they have not the right to perform all acts that an executive officer of the company might perform but only the particular duties connected with their department of the business.

There are four general rules of the law of agency, the particular application of which to life insurance should be noted.

Presumption of Agency. There is no *presumption* that one person acts for another. Thus, if a person represents himself to be the agent of an insurance company and receives the initial premium with which he later absconds, the company is not liable if it has done nothing to raise the presumption that an agency existed. If, however, the company had supplied the supposed agent with receipt blanks, rate books, application blanks, etc., there would probably be a presumption that an agency existed, and the company would in that case be liable to make good the loss.

Apparent Powers of Agents. The power of a special agent is limited, as already noted, to the acts which he is appointed to perform. But the company cannot deny that a special agent has powers with which he is apparently invested. For example, where an agent has habitually granted extensions of time in payment of premiums, and the company has not in the past questioned his power to do so, the effect will be that, until persons dealing with him are notified of the limitations on his powers, it cannot deny that the agent has such powers even though, in fact, he does not have them. Such action in regard to a policy on the life of one person would not, however, create any presumption as to the agent's power in regard to similar action on a policy on the life of another person. Again, the president or other executive officer of an insurance company must be considered to have, and generally does have, the power to do all things necessary to carrying out the contracts of the company.

Any restrictions on the powers of executive officers contained in the bylaws of the company would be of no effect in so far as responsibility for actions in such matters was concerned, unless such restrictions had been duly communicated to all concerned. Any restrictions contained in the company's charter would, however, be effective, since the charter, unlike the bylaws, is considered to be public knowledge.

Limitation of Powers of Agents. Limitations on the powers of an agent will be effective where these limitations have been properly communicated and provided that the limitations are legal. All companies communicate to their policyholders by means of a clause in the application blank or in the policy, or in both, the customary limitations on the powers of soliciting agents and other representatives of the company with whom the policyholder may come in contact. Such a clause usually states that only certain specified officers of the company (executive officers) have the power to extend the time for payment of a premium or otherwise to modify the contract in any respect.

Responsibility for Acts of Agents. Limitations on the powers of agents, even if communicated, must, however, be proper limitations; i.e., they must conform to the general rules of law. The company cannot merely by giving notice disclaim responsibility for the ordinary and necessary acts of its agents done in the course of their agency. The disadvantages of transacting business through the medium of agents cannot be avoided. The chief of these disadvantages are (1) responsibility for any wrong committed by the agent in the course of his agency and (2) the legal presumption that the knowledge of the agent, even though not communicated, is the knowledge of the company. The company is responsible, for example, for any libel committed by an agent in the course of business. Again, where the agent has obtained an application for insurance by making a fraudulent promise or a misrepresentation of the benefits to be received under the policy, the company may not retain the premium if the applicant, within a reasonable time, returns the policy and demands his premiums back. The applicant may not, however, in such circumstances, demand that the company fulfill the

promise of the agent, since that might be impossible without injustice to other policyholders. If the companies were bound by all promises made by agents, it would be practically impossible to carry out the business of life insurance by means of agents, since a dishonest agent could involve a company in serious loss.

The fact that the knowledge of the agent is presumed to be the knowledge of his principal is of particular importance to life insurance companies. The soliciting agent is the (legal) agent, not of the applicant, but of the company. If he knows anything regarding the applicant which might have a bearing on the latter's insurability it is his duty to communicate it to the company, and if he does not do so the company is nevertheless presumed to have such knowledge. The applicant is entitled to assume that the agent *has* communicated it. Facts which come to the attention of the medical examiner in the course of his examination and which he does not communicate to the company are likewise presumed to be known to the company.

Rights of the Beneficiary. The beneficiary is the person designated in the policy to receive the proceeds of the insurance. The rights of the beneficiary in connection with the ownership of the policy or in any negotiations concerning it depend on the terms of the contract. Where the policy is made payable to the estate of the insured, or to the insured himself at the maturity of an endowment policy, or where a policy is maintained by one person on the life of another and is made payable to the former, or where the beneficiary is a person designated by the insured for a valuable consideration, as in the case of a creditor policy, very few difficulties can arise in determining the rights of the beneficiary, who, in such cases, is usually the absolute owner of the policy. In the great majority of policies, however, the beneficiary is a person designated by the bounty of the insured and is usually someone who is dependent upon him, such as his wife or child. Where the policy is made payable to such a beneficiary without any limitations or conditions, the ownership of the policy is in the beneficiary, who is said to have an "absolute vested interest." Under these circumstances all negotiations concerning the policy may be effected by the beneficiary alone without the consent of

the insured; the beneficiary will lose the benefits secured by the policy only if it is not maintained in force by payment of premiums. In such a case, if the beneficiary were to die before the insured, the cash value of the policy at that time, if it had a cash value, would be a part of the estate of the beneficiary, and, similarly, in event of his bankruptcy the value of the policy would be available for payment of his debts. Such an absolute designation is not usual. Usually it is provided that, in event of the death of the beneficiary occurring prior to the death of the insured, the rights of the beneficiary shall pass to the insured. Under such circumstances the beneficiary's interest is conditional only, as he is liable to lose it by prior death. The insured has, therefore, an interest sufficient to necessitate his concurrence in all negotiations concerning the policy, although in the meantime the rights of the beneficiary are "vested."

Whether the interest of the beneficiary is vested absolutely or vested conditionally or is merely contingent, the beneficiary has an interest such that his consent is necessary in all negotiations involving the policy unless the policy specifically provides otherwise. For example, if a policy is made payable to the insured's wife, if living, or, if the wife is not living, to his children, no transactions involving the policy may be carried on without the consent of the wife and the children or of their legal guardians if they are under age. Such provisions may lead to delay and expense in connection with such matters as surrender of the policy for cash or an application for a policy loan or when the policy becomes payable by the death of the insured. In order to avoid such complications it is now more usual for the insured to reserve to himself the right at any time to change the beneficiary and the right to take the cash or other nonforfeiture value of the policy or to receive a loan upon it from the company without the consent of the beneficiary. Where this has been done, the beneficiary has no legal rights, but a mere expectation of benefit to be received in case the insured shall die without having changed the beneficiary and without having otherwise disposed of the policy. Ownership of the policy remains entirely with the insured, and in the event of his bankruptcy the value of the

policy may be taken in payment of his debts (unless, as in New York, the law provides otherwise) provided that it has a cash value by its terms. If the policy has no provision for a cash value, it cannot be taken by the creditors in event of bankruptcy.

In nominating the beneficiary, the insured may choose either to simplify all negotiations concerning the policy by retaining full control of it during his lifetime, in which case the property in the policy remains in himself and the policy becomes available for his debts in event of bankruptcy (except as stated below), or he may choose to nominate a beneficiary or beneficiaries without reserving to himself the control of the policy, in which case the policy is not available for his debts. In any particular case the answer to the question whether the insured or the beneficiary alone may deal with the policy or whether the consent of both the insured and the beneficiary is necessary depends entirely on the terms of the policy.

There are two conditions under which the creditors of the insured may attach a policy, even where it is payable to a beneficiary and where the insured has not reserved to himself any rights. These are (1) where the premiums have been paid out of embezzled funds and (2) where the premiums have been paid after insolvency and in fraud of creditors. In the latter case it is necessary that fraud be proved, which would usually be difficult. A reasonable amount of insurance for the circumstances of the insured will not generally be considered fraudulent.

The majority of the states now have statutes that protect policies payable to third-party beneficiaries from the claims of creditors of the insured, although in some states the exemption is restricted to policies payable to specified members of the insured's family, or to his dependents. There are eight states whose statutes still limit either the amount of the insurance exempted or restrict the exemption to insurance purchased by premiums not exceeding a specified sum annually.

In the state of New York the law is very liberal. Under Sec. 166 of the New York Insurance Law the creditors of the insured have (in the absence of fraud or intention to hinder or delay creditors) no right either to the proceeds at death or to the cash

value of a policy of any amount provided that the policy is payable to a named beneficiary, irrespective of whether the insured had retained the right to change the beneficiary, even where the insured himself is named as contingent beneficiary. Thus the insured may retain complete control over his life insurance while his creditors have no rights against it. No such possibility exists in regard to any other type of property.

Where a living policyholder elects that the proceeds of a policy be paid upon his death to a beneficiary under one of the settlement options, the laws of many states permit the inclusion in the supplementary contract of a provision (known as a "spend-thrift clause"), that the payee shall not have the right to commute, encumber, alienate, or assign the benefits under the contract. At the present time 23 states and the District of Columbia have such statutes; but such a clause should be effective even in states not having such a statute, on the basis of contract.

Assignments. Most life-insurance policies contain a provision to the effect that no assignment shall be binding upon the company unless the original assignment or a copy thereof is filed at the home office of the company and that the company assumes no responsibility as to the validity of any assignment. Such provisions have, of course, no effect on the validity of assignments or on the legal equities as between the insured and the assignee. By complying with the terms of the policy, however, the assignee becomes a party to the contract and may take legal action thereon if necessary. If he does not comply with the terms of the contract, he would, nevertheless, have an equitable right as against the insured which could be enforced through the proper channels. While the companies are within their rights in requiring that assignments shall be notified in a particular manner, no company would ignore notice received in some other and less formal manner. Such notices would be duly recorded and would be considered when the time came to make payment under the policy.

An assignment of an insurance policy may be voluntary, conditional, or absolute. A voluntary assignment is one which is made without a valuable consideration. Such an assignment

is effective, provided that it is made in good faith and not as an evasion of the requirement of an insurable interest and also provided that it is not made in fraud of creditors. A conditional assignment is the usual form of commercial security and is the form generally used for securing a debt. Evidence that the debt has been paid will suffice to cancel a conditional assignment even though the assignment may be absolute in form. An absolute assignment is equivalent to the sale of the policy. The rights of the insured in the policy can be reestablished only by a subsequent absolute assignment, although, as has just been seen, a conditional assignment may sometimes be absolute in form. In deciding the effect of assignments made for the purpose of securing indebtedness all the circumstances of the case must be taken into account.

Delivery of the Policy. The question sometimes arises under a life policy: When does the insurance begin? This is a matter which depends largely upon the terms of the policy, the usual provision being that the policy goes into force when it has been delivered to the insured while he is in good health, and provided that the first premium has been paid. While this may appear clear enough, questions sometimes arise as to what constitutes a *delivery* of the policy. Delivery is largely a question of the intention of the parties. Actual possession of the policy by the insured is not essential if all *conditions precedent* have been satisfied, *i.e.*, if the first premium has been paid, the insured being then in good health, and if the company has expressed the intention to be bound, either by delivering the policy to an agent to be handed to the insured without any restrictions or in some other way. Such a delivery without possession of the policy occurs where the insured, as is frequently the case, has paid the first premium at the time of making the application and has received a *conditional receipt* or *binding receipt*. Such a receipt may provide *either* that the insurance will not take effect until the application has been accepted by the company, *or* (more usually) that the insurance takes effect immediately provided the applicant is later found to be an insurable risk at the time of application. In the former case the company is not actually

liable under the policy if death occurs before the application has been acted upon but in that event (which occurs not infrequently) the company would, as a rule, pay the claim if the facts indicated that the application normally would have been accepted under the company's rules and that no misrepresentation or fraud was involved. One or two companies use a form of binding receipt that places the company unconditionally on the risk from the date of application, the insurance remaining in effect unless and until the application is declined. Under this latter form of receipt the applicant is insured for a brief period even where he is definitely an uninsurable risk.

Actual possession of the policy is not necessarily conclusive proof that it has been delivered. Sometimes the policy is handed to the applicant for his inspection, in which case he is usually required to sign a receipt which states that the policy is merely in his hands for examination and approval. As the policy generally states on its face that the first premium has been paid, no separate receipt being given for the first premium even in the case of a single premium, it is necessary for the company to secure in such circumstances an acknowledgment that formal delivery has not taken place.¹ If it did not do so, it is probable that, if the applicant should die while in possession of the policy and if a claim should be made under it, the company would be held liable because of the acknowledgment in the policy of the receipt of the first premium. The company would then merely have the right to recover the amount of the premium from the insured's estate.

In most cases where the first premium has not been paid in exchange for a conditional receipt, the agent is instructed not to deliver the policy unless the applicant continues to be in good health. The policy is therefore not released by the company for delivery without restrictions, and if the policy were obtained by the applicant or by his representative by a misrepresentation of the state of health of the applicant, there would be no real delivery and the policy would not be valid. Cases have, in fact,

¹ Some companies use a special form of receipt for single premiums, the policy itself not acknowledging the receipt of the premium.

occurred where such a "delivery" was obtained after the death of the applicant.

Life Insurance Companies and Litigation. All life insurance companies are frequently involved in litigation. Life insurance offers peculiar temptations to the unscrupulous, and every conceivable form of fraud has, at one time or another, been attempted against the companies. In order to protect the interests of the large body of honest policyholders it is absolutely essential to scrutinize all claims with care, particularly where any circumstances raise suspicion of unfair dealing.

It is somewhat unfortunate that the courts, or, at least, the lower courts, and juries seem sometimes to favor claimants as against the companies. The large number of decisions against the companies that are reversed on appeal to higher courts indicates that they cannot always rely on an entirely unbiased judgment in the first instance. With rare exceptions, life insurance companies do not enter into litigation without due cause. To do so would be bad business. At the same time, the rights of all the policyholders must be protected, and where a company believes a claim to be fraudulent or improper it is its duty to resist payment.

CHAPTER XXI

HISTORICAL DEVELOPMENT OF LIFE INSURANCE IN THE UNITED STATES

Individual Insurers. Life insurance in this country, as elsewhere, was an outgrowth of marine insurance. In colonial and revolutionary times marine insurance was written by individual insurers or underwriters who generally transacted their business in the coffehouses where the merchants who required their services were in the habit of meeting. As the business increased, public insurance offices were established in Philadelphia, Boston, and New York in which the underwriters made their headquarters and where persons desiring to effect either marine or life insurance could arrange for a policy. Occasionally these underwriters granted insurance covering the risk of capture by pirates to persons making a voyage, the object of the insurance being to provide the necessary funds to pay ransom. Policies were later issued covering the risk of death during a voyage, but such policies were few in number. The insurance obtained in this way was invariably for a short period only, usually 6 months or a year, or for the duration of a voyage. The customary rate of premium was 5 per cent per annum. While this appears to be a high rate of premium when compared with the cost of term insurance at the present time, it must be remembered that there was no medical selection, the applicant merely appearing before the underwriters who satisfied themselves of his general suitability for insurance. Moreover, policies were taken only when some unusually hazardous risk was about to be undertaken.

The Presbyterian Ministers' Fund. About the middle of the eighteenth century (1759) the Synod of Philadelphia established the Presbyterian Ministers' Fund, which is noteworthy in two respects, as the first corporation organized in America for the

purpose of furnishing benefits payable on the occurrence of death, and because it has survived (in a much improved form) to the present time. The Presbyterian Ministers' Fund was intended to provide the ministers of the Presbyterian Church with a means of supplementing, in event of their death, the inadequate provision for their families which was possible from existing church funds. The fund granted what are now known as survivorship annuities, *i.e.*, annuities commencing at the death of the policyholder and continuing thereafter during the remaining lifetime of the beneficiary. The annuity which could be purchased ranged from £10 to £35, the annual premium required being one-fifth of the annuity.

Subscriptions were solicited to supplement the fund; but such additional amounts were intended to extend the benefits to those not subscribers, and the rates were intended to be sufficient in themselves to provide the annuities. A safeguard existed in the rule that, if premiums had been paid for less than 15 years, the balance of 15 years' premiums was to be paid by deducting half of each annuity payment as long as necessary. The benefits of the fund were originally available only to clergymen of the Presbyterian Church, but they were later extended to include students of Presbyterian colleges. Similar limitations exist at the present time although the society has long since altered its plan of operation and has for many years issued regular life and endowment policies to those qualified for membership. The society is remarkable for the success which has attended its operation and for the low cost at which insurance is furnished. The latter feature is due chiefly to the fact that the rates of expense and of mortality are much lower than those prevailing in the regular life insurance companies since the society employs no agents and operates entirely among a section of the population which is subject to a very low death rate.

The Insurance Company of North America. In the closing years of the eighteenth century there was a period of business prosperity which was largely due to the effect of wars abroad and to the neutral position occupied by the United States. During the last 10 or 15 years of the eighteenth century about 30

insurance companies were organized, of which 5 had power to issue life-insurance policies. Only one of these companies, however, actually issued such policies. That company was the Insurance Company of North America, which was chartered in 1794 and which was the first business corporation to transact life insurance in America. The life-insurance business transacted was, however, negligible. In 5 years only six policies were issued, apart from ransom policies which were issued also by individual underwriters. The chief reasons for the small amount of life-insurance business transacted were that there was as yet practically no public knowledge of or demand for life insurance, largely because of the undeveloped condition of the country, while the rates of premium charged were very heavy and the general conditions of the policies were severe. Although the scientific grading of premiums by age had already appeared in Europe, arbitrary premium rates were still in use in America, and, in view of the insignificant amount of business, nothing better could have been expected. The Insurance Company of North America discontinued life-insurance business entirely in 1804.

Stock Companies. Apart from the very few policies issued by the Insurance Company of North America and the reversionary annuities of the Presbyterian Ministers' Fund, the only life-insurance contracts issued prior to the nineteenth century were those granted by individual underwriters. The disadvantages of this system gradually became evident. Disputes as to the liability of the insurer sometimes arose when a claim was made, and sometimes the insurer, even though admitting liability, was unable to pay. It was natural, therefore, that the first important development of the business should be in the direction of securing a better guarantee of payment. This was accomplished by the organization of stock life insurance companies. During the first 40 years of the nineteenth century a large number of stock life insurance companies were organized, most of which had a very large capitalization. Many of these companies were conducted on unsound lines and had a brief existence. Others met with considerable success. The chief of the latter group were the Penn-

sylvania Company for Insurance on Lives and Granting Annuities (1809), the Massachusetts Hospital Insurance Company (1818), and the New York Life Insurance and Trust Company (1830). The capital stock of each of the first two of these companies was \$500,000 and of the third \$1,000,000, sums which represented, particularly then, a substantial guarantee of payment.

The Pennsylvania Company was the first commercial corporation to be organized in this country for the sole purpose of issuing life-insurance policies and annuities. It was also the first American company to transact life insurance on a scientific basis, requiring an application and medical examination and charging premiums that increased with age. The terms of its policies were much less liberal than those of present-day contracts. For example, no provision was made for days of grace or for cash or other surrender values, while the sum insured was not payable until 60 days after proof of death. Most of the policies issued by the Pennsylvania Company and the other companies mentioned were on the term plan, either for 1 or for 7 years, although some ordinary-life policies were issued. The premium rates charged by the Pennsylvania Company are illustrated in the table shown below.¹ For comparison, specimen nonparticipating

ANNUAL PREMIUM RATES PER \$1,000

Age	Pennsylvania Company (1814)			Nonparticipating ordinary-life rate 1951
	1-year term	7-year term	Whole of life (ordi- nary life)	
20	\$15.00	\$16.20	\$23.90	\$14.63
30	18.20	19.20	29.30	19.10
40	22.30	24.30	37.20	26.67
50	30.30	33.40	49.90	39.72
60	42.90	48.00	70.00	62.55

¹ C. K. Knight, "The History of Life Insurance in the United States to 1870."

rates for ordinary-life insurance charged at the present time are also shown.

Specimen rates charged for life annuities are given in the table below together with approximate modern rates for comparison.

ANNUITY PURCHASED BY \$1,000 (MALE LIVES)

Age	Pennsylvania Company (1814)	Approximate rate 1951
40	\$ 80.40	\$ 40
50	92.70	50
60	113.50	66
70	158.10	95
80	271.00	150

The reduction in the rate of interest obtainable, the greatly increased longevity among annuitants, and greater expense are responsible for the much less favorable terms for annuities which prevail at the present time.

The Massachusetts Hospital Insurance Company was organized for the purpose of carrying on the life-annuity business that had been a monopoly of the Massachusetts State Hospital and also to transact the business of life insurance. Under the terms of its charter the company had to pay one-third of the profits on its life-insurance business to the hospital, as a result of which very little life insurance was written.

The New York Life Insurance and Trust Company ² was similar to the other two companies in most respects but is notable as the first company to establish an agency system and to make active efforts to secure business. It issued about 200 policies a year in its early and more active period.

² Not to be confused with the New York Life Insurance Company.

These three companies had, or subsequently obtained, the power to transact trust business as well as to issue life-insurance policies, and all of them subsequently gave up the life-insurance business entirely. They all still exist as trust companies.

Transition from Stock to Mutual Companies. In 1836 there was organized the Girard Life Insurance and Trust Company of Philadelphia, which inaugurated a new principle, that of granting to policyholders participation in the profits of the business. The Girard was a stock company but, because of the participation feature, was the connecting link between the stock companies and the purely mutual companies which were to come later. The first dividends of the Girard Company were allotted in 1844 in the form of additions to the insurance under policies which had been in force at least 3 years. The idea of allowing policyholders to share in surplus was due in part to the considerable profits made by some of the stock companies and in part to the development of the mutual system in other branches of insurance. In addition to participation the Girard introduced some other minor liberalities, one of the most important of which, from an historical point of view, was the provision for 15 days of grace in payment of premiums.

Mutual Companies. The business done by the companies mentioned in the preceding pages was of very limited extent. Only one of these companies made active efforts to obtain business in addition to that which came unsolicited. There was, moreover, not only a general lack of knowledge of the benefits of life insurance on the part of the public, but also considerable prejudice against it on religious grounds. As late as 1809 the courts of Massachusetts discussed the question whether the contract of life insurance was legal and not "repugnant to sound morals," and for many years after that date many persons held life insurance to be a sinful speculation in human life. There is no doubt that, during the first half of the nineteenth century this prejudice was responsible in large measure for the slow growth of the business, as may be judged from the fact that some of the early reports of the companies make special reference to

it and give arguments to prove that life insurance is not an immoral institution. About 1840 the prejudice against life insurance was beginning to disappear. The operations of the stock companies had, to some extent, educated the public in the uses and benefits of life insurance, and the general progress in the development of the country and the increase in population had resulted in an increased demand for insurance. Added to these reasons was the fact that the cost of life insurance was about to be considerably reduced through the introduction, on a large scale, of the mutual plan. Conditions in 1840 were very favorable for the important developments of life insurance which then took place and for a considerable expansion of the business.

The first company to commence operations on the mutual plan was the Mutual Life Insurance Company of New York, which was chartered in 1842 and commenced business 1 year later. The requirement of a high degree of security for the payment of claims, which had been an important factor in the development of the stock life insurance companies, was met by a plan which then appeared for the first time. This was a provision in the charter that active business would be commenced only when application had been made for a sufficiently large amount of insurance to provide an adequate basis of operation. The charter of the Mutual Life provided that applications for at least \$500,000 of insurance must be made before active operations could be commenced; as a matter of fact, business was not begun until applications for double that amount had been secured. The Mutual Life was successful from the first and within 5 years had issued over 4,000 policies. The principal features of the company which distinguished it from the stock and mixed companies were that policyholders were entitled to share in the management of the company through the election of directors and that *all* profits belonged to the policyholders. At the same time, there was no personal liability involved beyond the amount of premiums paid.

The New England Mutual Life Insurance Company, which commenced business in the latter part of 1843 (although chartered in 1835), illustrates the other method which was used to

establish a mutual life insurance company with adequate security. This method was practically equivalent to commencing as a stock company, except that provision was made for retiring the "stock" at an early date. The stock capital was called the "guaranty capital." The New England had a guaranty capital of \$100,000. Provision was made in the charter for paying legal interest on the guaranty capital (which was thus equivalent to borrowed money) and for its redemption out of the net profits of the company's business after a stated period, after which the company became in every sense purely mutual.

Among the other companies which were organized during this period and which are still in operation are the New York Life, the Mutual Benefit, the State Mutual, and the Connecticut Mutual, all of which were mutual companies. A great many companies were organized, nearly all on the mutual plan, between 1840 and 1850. Many of these were organized on unsound lines, and, as in the case of the companies established during the period of expansion at the end of the eighteenth century, many soon disappeared.

The Note System. The "part-note" system, a new feature of the business which led to considerable controversy and which is important because it was in large measure responsible for the general introduction of the annual-dividend plan, was introduced about this time by the New England. The large profits or savings which had been made both by the stock companies and by the mutual companies had led to the idea among the public generally that it was not necessary for the companies to charge such high rates of premium. Moreover, it was argued that the saving in claims which was effected by medical selection justified a substantial reduction in cost in the early years of insurance. This led to the idea that profits from various sources could be anticipated and that part of the premium could be accepted in the form of a note which would subsequently be redeemed from dividends. Under suitable conditions there would have been no theoretical objection to the part-note system, if properly applied. The system was not, however, suited to practical conditions and

was applied in such an improper manner as ultimately to cause its abandonment.

The note system was used by the majority of the companies at this time, and many of them accepted notes to the extent of half or even more than half of each premium. Their inability to redeem the notes from dividends was responsible for the failure of the system.

As a general principle, where part of the premium is accepted in the form of a note the amount so received must be limited so that the actual cash received is not less than the amount required to pay for actual expenses and for the net risk incurred by the company. Consider an ordinary-life policy of \$1,000 issued at age thirty at a premium of \$25, the net premium (3 per cent basis) being \$18.28, the loading \$6.72, the cost of insurance in the first year \$8.34, and the first year's reserve \$10.49. If the expenses amount to \$6.72 exactly and the other assumptions involved in the premium calculations are borne out, a company which receives the whole premium in cash will have \$10.49 on hand at the end of the first year. A company which accepts a note for half the premium receives only \$12.50 in cash but has to spend \$15.06 (\$6.72 plus \$8.34) in expenses and claims. There will therefore be a cash deficit of \$2.56, less interest. It is evident that the expenses must in such a case be limited to one-half the premium less the cost of insurance in the first year, since, otherwise, if the policy lapses at the end of the first year it has not paid its share of actual expense unless the note can be collected. Moreover, if no cash value is allowed at the end of the first year to a discontinuing policyholder who has paid the whole of his premium in cash, it is clear that no note at all should be accepted in part payment of the first year's premium and that the note should, in general, be not greater than the value allowed to a policyholder who has paid cash. In other words, while notes are good in so far as they can be used for payments which are due to the insured either as part of the sum insured or as dividends or cash value, there should be no insurance on credit and no discrimination against the policyholder who pays the full premium in cash.

The note system, with its accompanying reduction in the immediate cost of insurance, led to the adoption of the annual-cash-dividend plan by those companies that did not accept notes. Hitherto dividends had been allotted chiefly in the form of additional insurance and were not available for part payment of premiums. Another form of dividend was the "scrip" dividend which was practically an I O U from the company redeemable on some stated date in the future or at the time the policy became payable. Scrip dividends usually bore interest.

From 1850 until the Civil War there was a period of general progress and expansion in life insurance which was interrupted only by the financial panic of 1857. Many of the companies in existence at the present time were organized during this period. Only one of these, the Equitable Life Assurance Society of the United States, need be specially mentioned. The Equitable was formed in 1859 as a stock company with a capital of \$100,000.³ This company, through vigorous methods and capable administration, rapidly became one of the leading companies in the country in volume of insurance written. The success of the Equitable was in large part responsible for the great impetus given to life insurance at the end of the first half of the nineteenth century.

The Civil War. Conditions immediately prior to the outbreak of the Civil War were in many ways very favorable to the development of life insurance. The country had recently come through a financial panic and was entering on a period of expansion and general prosperity. There is little doubt that, quite apart from the effects of the war, a great development of life insurance would have commenced in the sixties.

The immediate effect of the war was to arrest progress, and in the first year of the war life-insurance business was practically stationary. Most of the companies were situated in the North, and the position with regard to policyholders in the Southern states introduced some problems. The policies of those who actively participated in the fighting were in most cases void

³ The Equitable became a mutual company in 1925.

by their terms, and considerable profits were made by the companies from forfeitures. Many disputes arose in connection with the policies of those who did not actively participate in the fighting, and in the settlement of these disputes the courts took different views.⁴ For nonenemy policyholders, some of the companies agreed to carry the risk of military service at an annual extra premium of 5 per cent, the extra premium being applicable either to existing policyholders or to new applicants; but many of the companies did not undertake this risk at all.

The general rise in prices which followed the cutting off of supplies and the increased demand for commodities of all kinds resulted in a considerable expansion of trade, and, after the first effects of the war had ceased, the life-insurance business shared in this expansion. The increase in the amount of insurance written at this time was, in fact, remarkable. During the last 3 years of the war the rate of annual increase in the amount of life insurance in force was over 30 per cent. With the conclusion of the war the rate of increase became even greater, and for several years the business in force increased by over 50 per cent annually. The financial situation was such that high rates of interest were obtainable on investments, an important factor in enabling large dividends to be paid.

Increase in Commission Rates. At the same time a highly important development of practice was taking place in the agency system. The remuneration payable to agents for securing new business had increased from 5 per cent of the premium, which had been the customary rate, to 35, 40, or even 50 per cent of the first premium with, sometimes, renewal commissions in addition. This increased remuneration opened up a new and attractive field of business to a large class of persons and was possibly the chief factor in the rapid growth which has been described.

While this development was, in some ways, a good thing, it has given rise to some serious difficulties. By making the agent's remuneration depend chiefly on the amount of new business obtained, the inducement to take an interest in renewal of existing

⁴ See p. 507.

business is lessened. Even more important is the question of financing new business when the total expenses of the first year may greatly exceed the loading, a difficulty which, as explained in Chapter VII, has required a reconsideration of the whole system of reserves.

Period of Expansion: 1865 to 1870. Prior to 1865, life insurance had been further popularized by a more general liberality in the terms of the policy and particularly by the introduction of nonforfeiture provisions. It is not surprising, therefore, that many new companies were formed in the period 1865 to 1870. About 30 were organized in the 3 years 1865 to 1867, and by 1869 the total amount of insurance in force had increased tenfold as compared with 1860. The rapid increase in the number of companies and in the amount of business written was not an entirely healthy growth. The great increase in commission rates, for example, was but one feature of a general tendency to indulge in extravagant methods of production. The increased rewards obtainable had attracted many whose business methods were open to criticism. The sale of life insurance was sometimes conducted on high-pressure lines, and the result was that many persons were disappointed with the results of their policies as compared with the promises of agents, so that the confidence of the public was somewhat shaken. In addition, many of the new companies had been organized or conducted on unsound principles, and some of them were soon in a precarious financial condition.

Period of Depression: 1870 to 1880. The effects of these influences were not long in appearing, and the succeeding decade was marked by the collapse of many of the companies which had been organized in the sixties. The great majority of the life insurance companies that were organized in the states of New York, Connecticut, and Massachusetts from 1860 to 1869 passed out of existence before 1880. One of the companies organized during that period which survived was the Metropolitan Life Insurance Company, now the largest life insurance company in the world. In the state of New York 46 companies ceased to exist. Ten of these were able to meet their liabilities in full;

four others were taken over by stronger companies; the remainder were total failures. The chief reason for the collapse of these companies was probably extravagance, particularly in regard to commissions. Inefficiency and general ignorance of the business were also responsible. Dividends were paid that had not been earned. There was laxity in the selection of risks and ignorance of proper methods of premium and reserve calculations, while in a few cases failure was due to dishonesty. Another and important factor which had a great deal to do with the general breakdown of so many of the young companies at this time was the sudden stiffening of the requirements of the state insurance authorities. Prior to this period many things had been permitted by the authorities that enabled financially weak companies to remain in business. Doubtful assets had been permitted to appear in balance sheets, while certain improper practices enabled some companies to show an apparent strength which they did not possess.

The increased rigidity of reserve requirements contributed largely to the downfall of some of the smaller and weaker companies, while the general situation was aggravated by the financial depression which had now succeeded the expansion of the postwar years. Meanwhile, the business of the older and stronger companies had fallen off, the annual new business having dropped to about half what it had been during the most favorable years.

Introduction of Assessment Insurance. These circumstances naturally shook the confidence of the public in life insurance. Numerous failures of "old-line" companies had led many people to doubt the advisability of risking their money on a plan by which a considerable part of the premium paid was for benefits to be received far in the future. In addition, the wide propagation of the part-note system had encouraged the general idea that life insurance could be furnished at much lower premiums than were charged by the companies. The degree of illiberality which still existed in the general terms of life policies was a further cause of dissatisfaction. The cumulative effect of these things was to create a demand for some form of cheap insurance which would not involve the possibility of forfeiture, because of ina-

bility to continue payment of premiums, of sums beyond the actual cost of the insurance that had been furnished. A further reason for the general demand for cheaper life insurance was that the annual-dividend system seemed likely to be abandoned by the regular companies in favor of tontine or deferred-dividend systems. These systems had been introduced by the Equitable, which was as yet not in a position to pay annual dividends on a competitive basis, and the popularity which such schemes had acquired, together with the considerable advantages they possessed from the companies' point of view, had led to their general adoption.⁵

All these things created a situation which was very favorable to the introduction of the assessment plan of insurance, which made its appearance at this time. The assessment plan offered insurance at cost and without the necessity of reserve accumulations with resulting possibilities of forfeiture. The system appealed to those who took the view that if the companies failed, as seemed to be a possibility in view of what had happened in recent years, there was no financial loss to the individual member. The assessment plan originated with the fraternal orders, but during the eighties thousands of commercial assessment-insurance societies were formed for the sole purpose of transacting life-insurance business on this basis. The arguments used by these organizations were extremely plausible and were such as to appeal to those who had not the technical knowledge necessary to detect their defects.⁶ The commercial assessment associations were foredoomed to failure, and most of them passed out of existence during the eighties and early nineties.

Developments to 1905. The pruning-out process which had taken place among the level-premium companies in the seventies and the temporary experiment in assessment insurance resulted eventually in a healthier condition of level-premium life insurance companies generally. During the last 20 years of the century the rapid growth which had been interrupted was resumed

⁵ See Chap. VIII

⁶ See Chap. I.

and greatly extended. The rapid development of level-premium life insurance during these years was due in large measure to the development of the agency system. The tontine and deferred-dividend plans had also become widely popular through the prospect which they held out of large gains for surviving policyholders, while the continual increase of liberality in policy conditions and the development of new and attractive schemes of life insurance were also factors.

By the end of the nineteenth century the business had grown to an extent which was, and still is, unequaled in any other country. Several of the larger companies in New York had become financial institutions of the first magnitude. They were recognized as factors in the general financial situation because of their enormous funds and the consequent influence which they wielded in financial matters generally. While the great increase in size was probably, in itself, a good thing, it was unfortunately accompanied in some instances by extravagance and abuse of power. During the early years of the twentieth century there was a continually increasing feeling that, quite apart from the enormous growth of some of the companies (which in itself was regarded by some as dangerous), the general condition and management of the large companies were not all that they should be. This feeling finally culminated in 1905 in a demand for legislative inquiry into the business of life insurance companies in the state of New York. The effects of this investigation were felt over the whole country and, in fact, over the whole world. Its importance as a landmark in life insurance history in America warrants a somewhat detailed consideration.

The Armstrong Investigation.⁷ The objects of the investigation, which was conducted in New York from Sept. 6 to Dec. 30, 1905, by a legislative committee under the chairmanship of Senator Armstrong, are clearly set forth in the resolution appointing the Committee, which reads as follows:

⁷ Sometimes referred to as the "Hughes investigation." Charles Evans Hughes (later Chief Justice of the United States) was examining counsel for the Committee.

To investigate and examine into the business affairs of life insurance companies doing business in the State of New York, with reference to the investments of said companies, the relation of the officers thereof to such investments, the relation of such companies to subsidiary corporations, the government and control of said companies, the contractual relations of said companies to their policy-holders, the cost of life insurance, the expenses of said companies, and any other phase of the life insurance business deemed by the Committee to be proper, for the purpose of drafting and reporting to the next session of the Legislature such a revision of the laws regulating and relating to life insurance in this state as said Committee may deem proper.

There was little question as to the necessity for such an investigation. As one writer has expressed it: "Whether the companies were solvent and whether their affairs had been mismanaged and their funds squandered were questions of vital concern, not only to their millions of policyholders, but to all men of affairs, in this country at least, whose interests might be affected by an investigation of such financial matters." *

Although the investigation did not reveal any financial unsoundness of any of the companies investigated, the testimony which was taken during the investigation showed a state of affairs in some of the companies that called for drastic measures of reform. The testimony may be reviewed briefly under the three heads of (1) government and control, (2) investments, and (3) expenses and the cost of insurance. In what follows it is to be remembered that not all the conditions referred to were found to exist in all the companies. Some of the companies were entirely or practically free of any grounds for criticism.

Government and Control. It was found that, in general, the directors or trustees of the companies did not exercise, in any real sense, a proper control over the management of the business. Where committees of directors had been formed to supervise the various departments of the business, they usually merely carried into effect, without examination or criticism, the proposals of the officers of the companies. In the words of the report with reference to one of the largest companies: "The Committee on

* G. A. Henderson, "History of the Insurance Investigation."

Agencies did not supervise the most important of the agency contracts. The Committee on Expenditures permitted large disbursements without proper vouchers and the Auditing Committee failed properly to audit the company's accounts." An exception to this criticism was that the committee in charge of investments in each company took an active interest in the matters coming within its jurisdiction, in which individual members of the committees frequently had a personal interest.

The policyholders had no real voice in the management of the companies. In the stock companies this was not to be expected, and there was no theoretical objection to majority stockholders holding the principal executive positions and thus exercising the active control to which they were entitled by ownership. In mutual companies, where the policyholders theoretically exercised control of their own funds, their controlling power had practically been eliminated through the wide use of *proxies*. A proxy is an authorization signed by a policyholder in a mutual company transferring his voting rights to an officer of the company. In some companies the management had secured from policyholders a large number of proxies which were effective until canceled by the policyholder and had thus concentrated the power of control in their own hands.

The recommendations of the Committee arising out of this state of affairs included proposals for measures leading, in the case of mutual companies, to a more active and effective control of the business by policyholders. These measures consisted chiefly of a new procedure for the election of directors and the strict regulation of the proxy system under which proxies are now good for one election only. The possibility of granting policyholders of stock companies the right to vote for directors was considered, but there was no legal way by which this could be done. The only measure proposed with the object of giving policyholders of stock companies a share in management was the suggested facilitation of the conversion of stock companies into mutual companies through purchase of the stock by the policyholders. Since the investigation several of the largest stock companies in the country have been mutualized.

Investments. A great deal of testimony was taken bearing on improper or irregular practices which were found to exist in the financial operations of certain of the companies. By various methods of evasion, real estate had been held indefinitely in violation of the law. Expensive and unnecessary buildings were owned and maintained at an extravagant rate of expense, the yield on such investments being artificially increased by the application of profits made in other directions to reduce the book values, such profits being eliminated from the companies' published accounts.

Some of the companies, through ownership of the stock of banks and trust companies, had practically entered into the banking business and, in some cases, other types of business. The relations that the companies bore to subsidiary corporations in which they were interested or which they controlled were frequently such as to curtail seriously their freedom of action in certain respects. Thus, the larger companies each maintained large and inactive balances in some 20 or more different banks and trust companies in which they were interested. These bank balances, which were grossly excessive in amount and which apparently were often not available for withdrawal at will, represented a considerable percentage of the total assets. They were responsible for a substantial reduction in the rate of interest earned by the companies and consequently in the dividends payable to policyholders. On the other hand, the companies shared in the large profits made by these banks partly because of the funds so deposited. One evil of excessive stock ownership was that the companies thus became vitally interested in many legislative and other activities far removed from the field of life insurance. This in turn led to organized efforts to control legislation, a practice which was severely criticized by the Committee.

Considerable criticism was also directed against the companies because of their participation in syndicate operations in financing bond issues of commercial corporations. The companies concerned maintained that these operations had, as a matter of fact, resulted in large profits. While this was doubtless

true, such profits had not usually been distributed among the policyholders but had been used to cover up losses and excessive expenditures, particularly those incurred in the pursuit of new business on extravagant terms. The report of the Committee pointed out that the companies were not incorporated to make money by speculation but were chartered to furnish life insurance. There may, however, be some difference of opinion as to the propriety of a large investor such as a life insurance company participating in the underwriting of new issues of bonds. Where the bonds underwritten are of such amount and character as the company would be prepared to take as an investment at the market price, it might seem that the practice is not necessarily objectionable.

The chief recommendations of the Committee with regard to financial matters were that investment in stocks should be prohibited and that existing holdings of stocks should be disposed of within a limited period; that all syndicate participations or transactions for purchase or sale on joint account, or agreements to withhold securities from sale, be prohibited; and that officers and directors should be prohibited from any personal interest in any capacity in the financial transactions of the companies.

In 1928 by an amendment to the New York Insurance Law life insurance companies in that state were permitted thereafter to invest in preferred and guaranteed ordinary stocks under certain conditions and limitations.⁹

Expenses and the Cost of Insurance. Extravagance had become common. Much was made of this aspect of the investigation, particularly in the public press because of its news value, but compared with the practices that have already been explained the effects of extravagant methods of conducting the business, except in regard to the payments of excessive commissions for new insurance, were of little importance. The large sums paid to officers in salaries and the amounts expended in miscellaneous extravagance were far beyond the sums which were necessary or sufficient for the proper conduct of the business, but the total

⁹ See Chap. XII.

amounts involved were small when compared with the total income and disbursements of the companies and really had little influence on the cost of insurance. The commissions payable on new policies, however, were costing the policyholders sums much in excess of what was proper or necessary. Commission rates had been gradually increased until it had become a not uncommon thing to pay in commission alone practically the whole of the first year's premium. The companies attempted to justify these large expenditures for commission on the plea that they were rendered necessary by competition. This raised the question whether an indefinite increase in the size of the companies benefited the policyholders generally, and a good deal of expert testimony was taken on the question of the advisability of limiting new business.

Another type of expense, which in itself was not of such magnitude as seriously to affect the interests of individual policyholders but which was open to serious criticism on other grounds, was "legal expenses." Although considerable difficulty was experienced by the Committee in obtaining testimony on this subject because of the absence of essential witnesses, it was sufficiently clear that very large sums had been spent in efforts to influence the legislatures of the different states not only in matters directly affecting the business of life insurance but in many other matters in which the companies had become interested because of their large stock holdings. It had become the practice in some cases to permit expenditures for such purposes without requiring vouchers or accounting, very large sums frequently being disbursed in this way without any record of the exact purpose for which the money had been spent. It is proper and necessary for life insurance companies to present their views on pending legislation affecting their operations; but this should be done openly, and the amounts spent and the reasons for the expenditures should be made public.

The Committee's recommendations bearing on expenses and the cost of insurance included a limitation on the amount that could be spent in securing new business as well as a limitation

on total expenses and on the amount of new business itself.¹⁰ The question of legal expense was dealt with by recommending that a detailed statement of all regular legal expenses and a further statement of expenses in connection with legislative matters be included as part of the companies' annual statements.

Dividends. In the course of the investigation a great deal of time was spent in discussing methods of dividend allotment. The Committee fortunately did not attempt to establish any standard system of dividend calculation. It recommended, however, the prohibition of the deferred-dividend system because of the facilities for extravagance which that system had provided. It had been clearly shown that one of the chief reasons why the writing of very large amounts of new business at excessive cost had been possible was the possession of deferred-dividend funds for which no specific liability was assumed but which were considered as "surplus." The Committee rightly pointed out that, in the absence of any proper system of accounting for deferred-dividend accumulations, the interests of the deferred-dividend policyholders were insecure. While the remedy for this might have appeared to be the establishment of a proper system of accounting, the Committee chose rather to recommend the entire prohibition of the system.

With unimportant modifications, practically all the recommendations of the Armstrong Committee were carried into effect in the New York Insurance Law of 1906. That law established in many respects a standard code for state laws affecting life insurance companies, and many of its provisions have been copied by other states. This result has been due largely to the recommendations of the Committee on Uniform Legislation, which was appointed at a conference of governors, attorneys general, and insurance commissioners at Chicago on Feb. 1, 1906 (the "Committee of Fifteen").

The majority of the provisions of the New York Insurance Law of 1906 were good. Some of them were too drastic, and some were defective in other ways. For example, the prohibition

¹⁰ See Chap. XIII

of all investments in stocks was unnecessarily severe and has now been modified. The prohibition of the deferred-dividend system was also probably unnecessary, especially in view of the difficulties which arise because of the incidence of expenses under modern conditions. Again, the minimum-reserve laws (based on the select-and-ultimate reserve system) and the requirements for the organization of mutual companies have not justified the beliefs of the Committee and have not worked well in practice. The modified-preliminary-term basis (Illinois Standard) for reserves was later legalized in New York largely because of the inadequacy of the select-and-ultimate method in meeting the practical circumstances of new companies. The limitation of new business was, we believe, an error, and although the principle of such a limitation has been retained in the law up to the present time, the law has never been really effective and has, in fact, been virtually a dead letter. At the present time the Superintendent of Insurance of the state of New York has power, in certain circumstances, to waive the provisions of the law relating to the limitation of new business.¹¹

Since the Armstrong investigation comparatively few new companies (all of them stock companies) have been organized in the Eastern states, because of the practical difficulties which have already been described. In other parts of the country many stock companies have been organized. Some of these were organized by promoters for what could be made out of them and have already passed out of existence, being mostly reinsured by other companies.

1907 to 1929. The period from the Armstrong investigation up to the depression of 1929 was one of great progress and expansion and was marked, as has been seen in previous chapters, by several important new developments. While the immediate effect of the investigation was to cause a sharp reduction in the amount of new insurance written, confidence was soon restored, and for a long period of years there was a steady increase in the aggregate volume of new insurance, insurance in force, and assets

¹¹ See New York Insurance Law, Sec. 212.

This was interrupted, as to volume of new insurance, by the minor depression of 1920, but thereafter the upward trend was resumed and continued until 1929, when new insurance issued (ordinary, group, and industrial) reached the high point of almost 20 billion dollars while total insurance in force passed the 100-billion-dollar mark. During the 10 years 1919 to 1929 both total insurance in force and assets were approximately trebled.

This unprecedented growth was due to a combination of circumstances. The period was one of great economic prosperity, which was the principal cause of expansion; but this expansion was greatly accelerated by the introduction of group insurance, by the inclusion in life-insurance policies of disability and double-indemnity benefits, by the development of optional settlements of policy proceeds, and by the greatly increased use of life insurance for business purposes and as a means of provision for payment of inheritance taxes. Another element in the expansion was the low cost of insurance with increasing dividends due to very favorable mortality experience, high interest earnings, and freedom from capital losses.

Two events of outstanding importance in the period 1907 to 1929 were the First World War, 1914 to 1918, and the influenza epidemic of 1918-1919.

First World War. The direct effects of the First World War, great as they were in many directions, were comparatively unimportant in relation to life insurance. Most of those who actively participated in the risks of warfare were young men who either did not carry life insurance with the regular companies or who were insured for comparatively small sums. At the outbreak of the war most of the companies had been issuing policies which were free from all restrictions on military or naval service, but it became necessary at that time to eliminate the risk of warfare in so far as new policies were concerned unless a suitable extra premium was paid. When the war was over, it was found by many of the companies that the cost of the extra claims attributable to war service was so slight that in some cases the whole of the extra premium which had been collected was refunded. A few of the companies had been operating in Europe

for some years before the war. The proportion of their business, however, on the lives of citizens of European countries resident there was small and consisted largely of policies on the lives of persons beyond military age, so that the effect of the war, even in the case of those companies, was not serious. Unlike conditions during the Second World War, there was comparatively little war hazard to the civilian population. The few American companies which then transacted business in Europe discontinued the issue of new business there soon after the end of the war because of unsatisfactory conditions in regard to currency depreciation and taxation and also because the full amount of new business permissible under the limitations of the New York law could be obtained in the United States and Canada.

War Risk Insurance. In 1917, by an extension of the War Risk Insurance Act of 1914 (which had provided for government marine insurance of ships and cargoes prior to the entry of the United States into the war) the government established a plan of life insurance for members of the armed services. This was called war risk insurance. It was administered by the Bureau of War Risk Insurance. Policies were issued upon application in amounts of from \$1,000 to \$10,000 on the yearly-renewable-term plan. The premium rates charged were the net premiums by the American Experience Table with $3\frac{1}{2}$ per cent interest. It was contemplated that the expenses of operation, together with any excess mortality cost not covered by the premiums paid, would be paid by the government through general taxation. There was a real need for such a plan since the companies could not carry the largely unknown hazards of combatant service except subject to very substantial extra premiums.¹²

These policies provided for conversion to a permanent plan within 5 years from the termination of the war. The amount of insurance issued by the Bureau reached a total of over 40 billion dollars, but when the war terminated a large proportion of the insurance issued was lapsed.

¹² The usual extra premium charged by the companies for regular combatant service was 10 per cent, that is, \$100 per \$1,000 of insurance.

force and an increase of $1\frac{1}{2}$ billion dollars in assets with only a slight reduction in new insurance.

In 1931 and 1932 there were sharp decreases in the amount of new insurance paid for. Terminations by surrender and lapse greatly increased, and in 1932, for the first time in a generation, the total insurance in force decreased. The decrease continued in 1933 but there has been an increase each year since that time. By 1932 the companies began to feel the effects of the depression in reduced surplus earnings. Surplus was substantially reduced by the reduction in value of nonamortizable securities in spite of the use in the annual financial statements of artificial "convention values" greater than the current market values. The rate of interest had commenced to fall. The mortality rate had increased. A marked feature of this increase was the number of suicides, which rose to 30 per cent above normal. Much of this excess mortality was on policies of large amount. In addition, disability claims and losses had increased to such an extent that practically all companies had either abandoned the disability-income coverage or radically altered its terms. These unfavorable elements led to many reductions in dividends, which in most cases were the first reductions to be made in 10 years or more. Premium rates for nonparticipating policies were also generally increased.

The climax of the depression, so far as its effect on insurance written and in force was concerned, was reached in 1933. During that year the unfavorable influences already mentioned increased in intensity. New business decreased to its lowest point in 10 years, while lapses and surrenders were abnormally high, and total insurance in force fell below the 100-billion-dollar mark which had been reached in 1929. Owing to unfavorable conditions throughout the country defaults in the payment of mortgage interest increased, and a considerable amount of real estate had to be taken in foreclosure, while the number of securities defaulted or in receivership also increased. Although the aggregate amounts involved in such defaults have been large, they have at no time represented a large percentage of the total mortgages

or securities held and were a small percentage of the total assets of the companies.

Moratorium on Cash and Loan Values. On Mar. 6, 1933, 2 days after his inauguration, President Roosevelt, acting under the emergency powers granted to him by Congress, temporarily closed all banks. During this brief "bank holiday" of a few days no payments of any kind could be made by check. All regular contract payments were thus necessarily suspended but were immediately resumed when the bank holiday ended. A considerable number of banks remained closed, while savings banks continued to limit the free withdrawal of deposits. There had, in the meantime, been a tremendous increase in the demand for loans and surrender values, to be paid presumably as soon as the banks opened again. The closing of the banks had caused many people to feel that their money was safe nowhere except in their own possession, and in cash. It soon became evident that a psychological situation had been created which, if not dealt with, would, as soon as the banks opened and payments could be made, cause a run on the insurance companies that might develop serious proportions. Insurance companies are not banks. Their assets are not invested as are the assets of banks, and such a run might have necessitated sales of securities on a scale which would have been disastrous to all concerned and which might have endangered not only the solvency of the life insurance companies but the whole financial structure of the country.

The greater part of the cash demanded was not required for any special need. Much of it was wanted simply in order to hoard it against any further restrictions on the free right of withdrawal. In these circumstances drastic measures were necessary for the protection of all. On Mar. 9, 1933, the Superintendent of Insurance of the state of New York issued an order prohibiting all companies doing business in that state from making loans or paying cash values except to the extent of \$100 in cases of extreme need. This order was immediately followed by similar orders in certain other states. In still other states, however, the authorities made no rulings but, on the contrary, denied the right of any state to place any restrictions on contract payments so

far as policyholders in *their* states were concerned. There was thus, at first, great confusion and doubt as to what, if any, payments of cash values and loans could or must be made. By the end of April the majority of the states had established a more or less uniform and liberalized set of rules which permitted *unrestricted* withdrawals for certain specified purposes only, these covering such "needs" as food, rent, mortgage interest or principal payment, hospital and medical expenses, funeral expenses, payrolls, and insurance premiums. Some states retained the original severe limitations, while a few states had already removed all restrictions. By this time it was generally established that payments could be made in accordance with the rules of the state of *residence*, so that states which removed restrictions obtained for their own residents an advantage over those of other states. This fact and the gradual recovery from panic psychology led to gradual modifications in the restrictive regulations, and after a few months all restrictions were removed without causing any noticeable increase in the demand for cash.

There are two things in connection with the moratorium which require emphasis: (1) It was in no way a sign of weakness on the part of the companies but was purely a protective measure for the benefit of all policyholders which was *necessary* to prevent the destruction of values by the selfish or foolish behavior of some of them. (2) Except for the few days during which all the banks were closed, there was never any suspension or delay in contract payments *due and payable*, such as death claims, matured endowments, annuities, disability benefits, and amounts definitely payable under supplementary contracts. Moreover, there was never any *complete* cessation of other payments. At first, small amounts were allowed for cases of need, and later the restrictions were liberalized to the point where in most cases there was virtually no limitation.

A serious legal question existed, of course, as to the right of the state authorities to issue or enforce orders suspending contract provisions. Some of the companies had the right under the terms of their policies to delay such payments for 3 or 6 months,

but many had not. A delay clause is now mandatory in life-insurance policies under the Standard Nonforfeiture Law.

Mortgage Moratoria. In 1933 many of the states enacted mortgage-moratorium laws which provided that, during the emergency declared to exist, mortgage foreclosure sales might be postponed and the periods of redemption extended. The Minnesota law containing such a provision was the first law to be upheld as constitutional by the United States Supreme Court.¹³

Subsequent to that decision, a North Carolina statute, which provided, in substance, that, if a mortgagee, trustee, or obligee foreclosed and bought in property on a foreclosure sale, such mortgagee, etc., in any application for a deficiency judgment, must credit the total debt with the value of the property bought in, and a similar statute in New York were held constitutional.

In approving these statutes, the Supreme Court pointed out that postponement of rights and remedies is not an impairment of the contract but merely a delay in enforcement. In upholding the set-off provisions on deficiency applications, the Court held that payment of the debt was all that the Constitution required, whether it were in land or in land and money. The Court also stated that no mortgagee had, prior to the enactment of the statutes, any inherent constitutional right to receive land worth more than the debt, plus a large deficiency. Although such laws do not, strictly speaking, relieve borrowers of their contract obligations, they do postpone foreclosure for default in principal and prevent the mortgagee from securing both the pledged property and an exaggerated deficiency.

The effect on mortgage investments held by the companies at the time of the passage of such statutes has been varied. Not only is foreclosure barred if interest and taxes are paid, but, for the most part, deficiency judgments are rarely secured.

Most moratorium statutes affected only mortgages in existence at the date of the passage of the particular moratorium law. In New York, however, the legislature, encouraged by the reactions of the Supreme Court, passed an act providing for what is now

¹³ *Home Building and Loan Association v. Blaisdell*, 290 U.S. 398.

referred to as a "permanent" moratorium. That act, which became effective Apr. 7, 1938, provides that in any application for a deficiency judgment thereafter made (on any nonmoratorium mortgage) the value of the property shall be set off against the debt. This has greatly affected the investment problem of the companies, for in a close case they may no longer, on foreclosure, look to the bond unless they can persuade the court that the property is worth less than the debt. The "permanent" moratorium was held unconstitutional by the New York Court of Appeals, but the United States Supreme Court reversed their decision and upheld it as constitutional.

In 1934 Congress passed an amendment to the Bankruptcy Act (the Frazier-Lemke Amendment) providing for a 5-year moratorium on mortgage payments for distressed farmers. The Supreme Court of the United States in May, 1935, decided that this amendment was unconstitutional. In August, 1935, Congress passed a further amendment to the Bankruptcy Act (a new Frazier-Lemke Amendment) which has been upheld by the Supreme Court. The defects of the prior amendment were met in the new amendment. The previous 5-year moratorium was cut to 3 years, subject to a further reduction at the discretion of the court supervising the bankruptcy. The effect of the amendment was to preserve to the mortgagee most of his rights, but to postpone their enforcement so as to give the farmer an opportunity to rehabilitate himself.

Receiverships. In view of the exceedingly unfavorable conditions just described, it was to be expected that some of the weaker and more poorly managed companies would find themselves in financial difficulties. The actual record, however, was extraordinarily good. Out of about 350 companies, about 20 were placed in the hands of receivers. Of these none was in the first rank as to size, and only one could be considered a large company. The insurance involved amounted to only a little over 1 per cent of the total insurance in force in all companies. This record of strength and safety under the most adverse conditions is probably unequaled by any other business or industry.

The business of the few companies that went into receivership

was reinsured by other solvent companies under agreements which, in general, provide for payment of death claims in full (at least for a period of years) but with provision for deductions—corresponding to the extent of deficiency—in event of surrender. These liens have, in most cases, gradually been reduced or extinguished as surplus earnings accumulated. The actual loss to policyholders has thus been very small.

The reason for failure was, in most cases, unwise investments and particularly an insufficient degree of diversification. This is a fault which is likely to be found only in companies of the smallest size. No company that has adhered to elementary and fundamental principles of investment has been involved in any financial difficulty.

RFC Loans. Life insurance companies were included among the classes of corporations that, during this period, could borrow money from the Reconstruction Finance Corporation (RFC). The fact that some of them did so has been viewed in some quarters as a sign of weakness and a reason for criticism. Such a view is unjustified. No loans were made except on adequate collateral security, and the only purpose of making loans was to protect policyholders against losses which would have been incurred through sale of securities at an unfavorable time. None of the principal companies found it necessary to borrow money from the Corporation.

Inflation. The possibility of inflation and its effect on life insurance were very much in the minds of policyholders during the depression period. Two kinds of inflation are possible: (1) inflation caused by a reduction in the gold content of the dollar; (2) inflation caused by the more or less unrestricted issue of inconvertible paper money.

Inflation of the first type occurred when, in January, 1934, the President, exercising the power given to him by Congress, issued a proclamation reducing the gold content of the dollar to approximately 60 per cent of its former amount. The object of this step was to increase prices and thus to reduce the purchasing power of money.

Life-insurance contracts are in dollars, and the assets of the companies are, except to a very small extent, securities that are payable in dollars. The financial condition of the companies, therefore, would not be affected by a reduction in the *value* of the dollar since both assets and liabilities would be affected in the same way. They would, however, be affected by the consequent increase in the cost of conducting the business. On the other hand, it would presumably be easier to clear up defaults and to dispose of foreclosed real estate. Policyholders would suffer from the reduced purchasing power of the proceeds of their insurance. It must, however, be remembered that the purchasing power of money has not been stable in the past and that much of the insurance outstanding has been paid for in dollars of relatively low value, so that no great injustice would, in general, result from a *moderate* devaluation, especially as future premiums would be paid on the new basis. In the case of annuities purchased in times of high purchasing power the effect is more unfortunate, but that is a risk inherent in all forms of investment.

Inflation through the unrestricted issue of inconvertible paper money (such as was experienced in Germany and other countries in the 1920's) or from an extensive devaluation of the dollar would be disastrous to the holders of life-insurance policies. The practical effect would simply be to wipe out both assets and liabilities, since both securities and policies provide for payment in dollars, and dollars would soon cease to have any real value. Life-insurance policyholders have, therefore, a special interest in opposing any proposals leading to material devaluation.

1935 to 1950. The annual increase in the total amount of insurance in force which was interrupted by the depression was resumed in 1935 and has continued up to the present time, the total reaching an all-time high (as of Dec. 31, 1949) of approximately 220 billion dollars.

Important events in this period affecting life insurance include (1) the passage of the Social Security Act in 1935; (2) the federal investigation of the life-insurance business undertaken by the

Securities and Exchange Commission (SEC) in connection with the study of concentration of economic power by the Temporary National Economic Committee (TNEC) appointed by the President in 1935; (3) the Second World War; (4) the decision of the United States Supreme Court in the *South-Eastern Underwriters* case in 1944, which reversed the precedents of 75 years by holding that insurance is commerce;¹⁴ (5) the general adoption of a new mortality table for premiums and reserves and the passage of the Standard Valuation and Nonforfeiture Laws.¹⁵

The Social Security Act. The Social Security Act, signed by the President on Aug. 14, 1935, established for certain classes of employed persons a contributory system of old-age pensions based on earnings, and provided for federal cooperation in state plans for unemployment insurance and for the extension of federal aid available to the states in connection with various plans of public assistance to the needy.

In 1939 the Act was amended to provide survivors benefits (to widows, children, or parents, under specified conditions) which, in effect, created a very large volume of government life insurance for those in "covered employment." These included, in general, all employed persons except (1) the self-employed; (2) federal and state government employees; (3) employees of certain types of charitable, religious, and nonprofit organizations; (4) farm workers; (5) railroad employees (who are covered under the Railroad Retirement Act); and (6) domestic servants and casual laborers. After the 1939 amendment the system was known as "Old Age and Survivors Insurance" (O.A.S.I.).

Further amendments were enacted by Congress in 1950 which (1) greatly increased the scale of benefits payable; and (2) expanded the scope of the Act by bringing in some of those classes of employees previously excluded. The most important of these were the self-employed, including full-time soliciting agents of insurance companies.

¹⁴ See Chap. XIX.

¹⁵ See Chaps. V, VI, and IX.

Proposals to include in the scheme benefits payable in event of total-and-permanent disability failed to pass.

The original and amended acts provide for the financing of the benefits by payroll taxes on an increasing scale, part payable by the employee and part by the employer. Until 1950 the automatic increases in the tax rates provided for in the Act did not take effect but were postponed by special legislation.

Taxes are paid into a special trust fund out of which all benefits and expenses of administration are paid. Up to the present time there has been a substantial excess of taxes over disbursements (which is normal in the early years in any "insurance" scheme for providing deferred annuities or survivors' benefits). The excess is borrowed by the government which issues bonds to the trust fund, bearing interest at 3 per cent. There may be considerable doubt as to whether such a plan really constitutes insurance, in the sense of providing benefits through the collection of premiums (taxes) of equivalent worth. There is, in fact, little or no relationship between the present value of the taxes collected (or which were to have been collected) and the present value of benefits, while the amount in the trust fund is far short of the actuarial reserve which would be required to meet the benefits. The soundness of the scheme would appear to rest on the taxing and borrowing power of the federal government rather than on the actuarial sufficiency of "premiums" and "reserves." Congress has (1950) authorized a commission to study the whole question of government aid to the needy and the validity of the existing O.A.S.I. system. It is possible that radical changes may be made in the future.

The Social Security Act, far from restricting the volume of private insurance, as it might have been supposed it would do, has operated as a stimulus to its expansion. The relatively small maximum benefits payable and more particularly the absence of a provision for widow's pension prior to age sixty-five (unless there are children under eighteen) present an obvious and legitimate opportunity for supplementing the social-security benefits with life insurance or annuities in private companies.

TNEC Investigation. In the words of its final report,¹⁶ the TNEC "made the most extensive study of life insurance since the well-known Armstrong investigation . . . in 1906."

It should be observed that in 1938 there were no such conditions prevailing as existed prior to 1907, that called for or seemed to require a general investigation of the operation of the life-insurance business. Furthermore, there was nothing in the President's letter of April, 1938, to Congress (resulting in the appointment of the TNEC) that appears to suggest the need for an investigation of life insurance except to the extent that it involved the question of concentration of economic power. The only specific reference to life insurance in that letter reads as follows:

The tremendous investment funds controlled by our great insurance companies have a certain kinship to investment trusts in that these companies invest as trustees the savings of millions of our people. The Securities and Exchange Commission should be authorized to make an investigation of the facts relating to these investments with particular relation to their use as an instrument of economic power.

The SEC undertook such an investigation. However, its inquiries were extended far beyond the companies' investments and their relation to the concentration of economic power and reached into such fields, apparently remote from the subject in hand, as the training, education, and compensation of agents, the comparative lapse rates and costs of ordinary, industrial, and savings-bank insurance, the basis of reserves for annuities, the different types of policy forms, the relative contributions to surplus by different lines of business, and many other aspects of the technical operation of the companies.

Unlike the Armstrong investigation, which was conducted on an eminently impartial basis with the obvious purpose of determining the facts, whether favorable or unfavorable, and in which the companies had every opportunity to present their position, the SEC investigation was, in the opinion of the author, con-

¹⁶ "Final Report and Recommendations of the Temporary National Economic Committee," Government Printing Office, Washington, D C, 1941.

ducted largely in an atmosphere of antagonism to the companies. That this was so is evidenced by the fact that, at the close of the hearings, a substantial group of important companies submitted a joint statement constituting a rebuttal of much of the unfavorable testimony taken by the committee and which the companies felt they had been given no adequate opportunity to answer. This statement, which was published separately as *Monograph 28A*,¹⁷ consists of comments on *Monograph 28* entitled "Study of Legal Reserve Life Insurance Companies." No reference is made to it in the final report of the TNEC.

The recommendations as to life insurance contained in the final report of the TNEC and made "for the consideration of the several states" may be briefly summarized as follows:

1. State insurance commissioners should be appointed on the basis of qualification, should have a longer tenure of office, should have no duties other than regulation of insurance, and should have larger salaries.

2. The budget and staff of qualified personnel of state insurance departments should be increased. Companies should not be required to pay the salaries of the state examiners, at least directly. Examination procedures should be strengthened and extended.

3. There should be closer regulation of agency practices, including training, qualification of agents, and methods of compensation, as well as closer scrutiny of the competence and activities of company managements.

4. The number of policy forms should be reduced and greater attention given to standardized forms or policy provisions.

5. Life insurance should be conducted on a competitive basis. No intercompany agreements should be permitted that would prevent sound development.

6. A fundamental change in the conduct of industrial insurance should occur.

In addition, one member of the SEC recommended that life insurance companies be permitted to invest a limited and small

¹⁷ Senate Committee Print, 76th Congress, 3d Session.

percentage of their funds in common stocks. The SEC also recommended a federal statute to prevent the selling of insurance through the mails in states to which a company has not been admitted, and an amendment of the National Bankruptcy Act to enable a state commissioner to apply to the appropriate United States district court to bring about the liquidation or reorganization of a life insurance company.

Space does not permit a discussion of the foregoing recommendations. It will be sufficient to say that, so far as the operations of the companies were concerned, the investigation, in the opinion of the author, except in one or two isolated instances affecting small and unimportant companies, revealed nothing discreditable to the business and justified no important adverse reflection on the manner in which it is conducted.

Second World War. At the time of the entry of the United States into the Second World War (1941) practically all policies in force were, as in 1917, free from any restriction as to military or naval service. Because of the large volume of new business which had been written for many years prior to 1940 and the much greater total insurance in force, there was a much larger amount of outstanding insurance than in 1917 on the lives of persons of military age. Also, the number who volunteered or were drafted into the services was much greater than in the First World War. The total amount of claims due to war-caused deaths in the period 1942 to 1945 that were not excluded by war clauses or covered by extra premiums was thus very substantial, amounting roughly to between 7 and 10 per cent of all death claims. This meant that, at the lower ages, the rates of mortality experienced were much higher than normal. However, the additional claims due to the war were very largely offset by an extremely favorable general mortality experience during the war years. Most companies showed, in fact, no increase in the *aggregate* ratio of actual to expected mortality, so that the total mortality gains were not significantly diminished, if at all.

The war had more far-reaching effects on the operation of life insurance because of its effect on the companies' investments. The greater part of all funds available for investment during the

war was invested in U.S. Government bonds at interest rates substantially below those being earned on other assets. The previously existing downward trend of the interest rate was thus accelerated, adversely affecting dividends and the cost of insurance to policyholders.

As already explained (in the discussion of war clauses) a very large proportion of all the policies issued during the Second World War excluded the war risk by the inclusion of a war clause of either the results or status type. Only a relatively small proportion of policies were issued on the basis of full coverage and subject to payment of an extra premium. Since the end of the war practically all companies have removed war and aviation restrictions from all existing policies and until about the end of 1950 were issuing new policies without any such restrictions where no special hazard existed at the time of application. The present situation (1951) as to liability under existing policies is, therefore, the same as at the beginnings of the two World Wars, except that the amount of unrestricted insurance is very much greater.

National Service Life Insurance. As in the case of the First World War, life insurance was made available by the federal government to all those in service in the Second World War. This was called National Service Life Insurance (N.S.L.I.). The total volume of such insurance in force prior to the termination of the war was about 140 billion dollars, or about $3\frac{1}{2}$ times the amount of war risk insurance issued in the First World War, and an amount approximately equal to the total amount of life insurance then in force in all the companies combined. After the war, as in the case of war risk insurance, the greater part of the insurance issued lapsed—in spite of strenuous efforts by the government, assisted by the companies, to induce the owners of such insurance to keep it in force. However, about 36 billion dollars of N.S.L.I. is in force at the present time (1951).

There are some important differences between N.S.L.I. and the war risk insurance of the First World War.

The original plan of insurance under N.S.L.I. was 5-year term insurance (instead of yearly-renewable term insurance). Poli-

cies could be converted to a permanent plan at any time after 1 year. In 1945, as a conservation measure, the original 5-year term was extended to 8 years without increase in premiums.

A very important difference is that, whereas under war risk insurance the contribution of the government (*i.e.*, the taxpayers) toward mortality was limited to the excess of total claims over total premiums and interest, under N.S.L.I. (and U.S.G.L.I.) all claims traceable to the hazards of war, as well as all expenses of administration, are paid by the government from special appropriations. This has an important bearing on *dividends* (all government insurance, as described above, being on a participating basis). Under war risk insurance, losses exceeded premiums plus interest so that there could be no dividends. Dividends have been paid on U.S.G.L.I. since 1921 on plans of insurance showing a surplus. Payment of dividends on N.S.L.I. began in 1950 when a cash dividend covering the whole duration of the policy from date of issue up to 1948 was paid. Naturally, these special "initial dividends" are, in most cases, quite large in relation to one annual premium and are not comparable (as a comparison of cost) with the regular annual dividends of the companies. It is intended that a second "special" dividend will be paid on N.S.L.I. in 1951 for the period from the 1948 anniversary, with annual dividends thereafter.

All government life insurance is now administered by the Insurance Division of the Veterans Administration. The work of the Insurance Division has been largely decentralized by the establishment of district and regional offices. Records are maintained in (at present) about 13 district offices which are organized along the lines of the central office for the collection of premiums and the payment of claims. In addition there are about 70 regional offices which furnish information and miscellaneous service to veterans in regard to government life insurance.¹⁸

Soldiers' and Sailors' Civil Relief Act. The Soldiers' and Sailors' Civil Relief Act of 1940 terminated, under its terms,

¹⁸ For a complete account of United States government life insurance see D. M. McGill, "An Analysis of Government Life Insurance," University of Pennsylvania Press, Philadelphia, 1949.

6 months after the official end of the war (*i.e.*, in July, 1947) but was reinstated in 1948 by the Selective Service Act. This Act makes provision for preventing the lapse or forfeiture of certain life-insurance policies issued by private companies while the policyholder is in the military or naval service and for a period of 2 years after the expiration of such service.

The government guarantees the payment of premiums, and the Act provides, in effect, for a temporary suspension of premium payments by the policyholder. If the policyholder desires to keep his policy in force after the period of suspension, it will be necessary for him to pay any unpaid premiums that became due during that period. In event of death during the period of suspension the unpaid premiums will be deducted, together with interest thereon at the policy-loan rate, from the proceeds of the policy. If the policy is still in force at the expiry of the period of suspension and if the unpaid premiums and interest thereon (at loan rate) are not paid, the amount due is treated as a policy loan. If this exceeds the cash value, the policy terminates, and the government reimburses the company for the difference between the cash value and the indebtedness. Dividends, if any, must be applied in reduction of premium, and no prior dividend accumulations or other amounts may be withdrawn without the consent of the Veterans Administration.

Application must be made by the policyholder to the Veterans Administration to have a policy placed under the protection of the Act. The insured must be in military or naval service at the time of application.

The benefits of the Act are available only up to a total amount of insurance of \$10,000, and the Veterans Administration may select the policies to which it will apply where the insurance exceeds that amount. The original act limited the amount to \$5,000.

The Act does not apply to a policy containing any restriction or limitation on the amount of insurance payable while in service, nor if the policy provides for any extra premium for such service, nor to any policy against which there is outstanding indebtedness equal to or greater than 50 per cent of the surrender value.

Present Situation and Outlook. The main problem facing the companies today is the adjustment of their operations to lower rates of interest. All companies, during the past 5 or 10 years, have adopted a lower interest basis for premium rates, reserves, and optional-settlement guarantees. This change, in conjunction with the adoption of a modern mortality table and a revision of the system of nonforfeiture values, will have a considerable effect on the incidence of the cost of insurance to policyholders, tending in general to greater equity.

The ability of the companies to adjust themselves to such a drastic and rapid fall in the interest rate as has taken place in the last two decades is a demonstration of the soundness of the basis upon which the business is conducted. These difficulties have been met and surmounted before, as may be seen from the following extract from the annual report for 1885 of one of the largest companies:

The financial conditions under which the business of 1885 was transacted were such as to test severely the soundness of the conservative policy of the Company. The financial disasters of the preceding year were followed by a decline of the spirit of enterprise and a loss of confidence in the future, which continued and even increased for many months, and from which but a partial, though in some directions a rapid, recovery has even now been made. Vast accumulations of idle capital were formed; the demand for investments of unquestionable security was exaggerated; and the rate of interest on these was so low that the profitable use of the funds of the Company involved problems of unusual difficulty. . . . It is not surprising therefore, that some minds, prone to despondency in preparing for the future, despair of seeing the cumulative power of capital recover in any degree from its present disturbance, although, amid all fluctuations, that power has been substantially unimpaired from the dawn of civilization and is intimately connected with the development of the resources of the Nation.

On the insurance (as distinguished from the investment) side of the business, important changes affecting the methods of doing business seem to be in the making. There is an increasing trend toward "mass" types of life-insurance coverage for greater sections of the population. These include the extension and de-

velopment of group insurance, payroll-deduction plans, and the use of individual life-insurance policies for the purpose of creating pension systems. These developments were stimulated by the tax situation of employers during and after the war but are likely to continue. Economic developments, too, have tended to limit the individual market, particularly for the larger policies which formerly made up a substantial part of the ordinary insurance written. Companies are giving more and more attention to the probable changes in the insurance market and to the types of coverage which will be appropriate under changed conditions.

Whatever future developments may be, the record of the past justifies full confidence in the future. Under capable management and with adequate supervision by the states, the life-insurance business in America has become, and we believe will continue to be, one of the greatest economic structures the world has ever seen.

APPENDIX A

MATHEMATICAL DEMONSTRATION OF NET PREMIUMS AND RESERVES

1. Interest Element. *Amount.* If the rate of interest per annum per unit be denoted by i (i.e., 100 i per cent), then 1 unit invested for 1 year will amount to $(1 + i)$. If this latter amount be reinvested for a second year, the total accumulated amount at the end of the second year will be $(1 + i)^2$, since each unit invested amounts to $(1 + i)$ and therefore $(1 + i)$ units invested will amount to $(1 + i) \times (1 + i) = (1 + i)^2$. Generally, the accumulated amount in n years will be $(1 + i)^n$. For example, the amount of 1 invested for 1 year at 3 per cent is 1.03, for 2 years $(1.03)^2$, or 1.0609, and for n years $(1.03)^n$.

Present Value. Since 1 amounts to $(1 + i)^n$ in n years, 1 must be the present value at rate i per unit of $(1 + i)^n$ due in n years; and by proportion, or by dividing both by $(1 + i)^n$ the present value of 1 due in n years is therefore $\frac{1}{(1 + i)^n}$. This latter quantity is denoted by v^n .

For example, the present value at 3 per cent of 1 due in 1 year is $v = \frac{1}{1.03}$, or 0.9709; of 1 due in 2 years, $v^2 = \frac{1}{(1.03)^2}$, or 0.9426; and so on.

2. Mortality Element. The fundamental column of the mortality table—the rate of mortality— i denoted by q_x which may therefore be defined as the proportion of persons of age x who die in a year.

If l_x is defined as the number of persons who attain the precise age of x and d_x denotes the number of persons out of l_x who die before they attain age $(x + 1)$, then

$$d_x = l_x - l_{x+1} \quad (1)$$

and

$$q_x = \frac{d_x}{l_x} \quad (2)$$

both of which relations may easily be verified from the table on page 81.

3. Net Single Premiums. If l_x persons each effect a 1-year term policy of 1, the number of death claims payable (presumed to be payable at the end of the year) will be d_x .

The present value of these claims is vd_x , and the net premium which each of the l_x persons should pay is therefore

$$\frac{vd_x}{l_x} \text{ (or } vq_x) \quad (3)$$

If the insurance is to continue for n years (an n -year term insurance) instead of 1 year, the single premium required from each will be

$$\frac{vd_x + v^2d_{x+1} + v^3d_{x+2} + \cdots + v^nd_{x+n-1}}{l_x} \quad (4)$$

since d_x claims will be paid the first year, d_{x+1} the second, and so on, up to the n th year, when d_{x+n-1} claims will occur.

If the insurance is to continue for life, the single premium will be

$$\frac{vd_x + v^2d_{x+1} + v^3d_{x+2} + \cdots}{l_x} \quad (5)$$

Again, if the insurance is for n years and a payment of 1 is also to be made to each survivor at the end of n years, *i.e.*, if the insurance is an n -year endowment insurance, the single premium will be

$$\frac{vd_x + v^2d_{x+1} + v^3d_{x+2} + \cdots + v^nd_{x+n-1} + v^nl_{x+n}}{l_x} \quad (6)$$

4. Commutation Columns. The actual calculation of these and other premiums is very greatly simplified by an ingenious device.

It will be clear from a consideration of formulas (4), (5), and (6) that the calculation by these formulas of any required single premium involves a large number of multiplications, v by d_x , v^2 by d_{x+1} , and so on, and that these multiplications will be *different for every age* at which the premium is to be calculated.

If, however, we first multiply both numerator and denominator of the above expressions by v^x , we shall obtain, for formula (4), n -year term insurance,

$$\frac{v^{x+1}d_x + v^{x+2}d_{x+1} + v^{x+3}d_{x+2} + \cdots + v^{x+n}d_{x+n-1}}{v^xl_x} \quad (7)$$

for formula (5), whole life insurance,

$$\frac{v^{x+1}d_x + v^{x+2}d_{x+1} + v^{x+3}d_{x+2} + \cdots}{v^xl_x} \quad (8)$$

and for formula (6), n -year endowment insurance,

$$\frac{v^{x+1}d_x + v^{x+2}d_{x+1} + v^{x+3}d_{x+2} + \cdots + v^{x+n}d_{x+n-1} + v^{x+n}l_{x+n}}{v^xl_x} \quad (9)$$

In all these expressions it will be seen that the index of v when multiplied by d is always greater by unity than the age and that when multiplied by l the index of v is always the same as the age.

One set of multiplications ($v^{t+1}d_t$ and $v^t l_t$ for all values of t) may therefore be made which will be available for the calculation of premiums at all ages.

If now we write

$$v^{x+1}d_x = C_x \quad (10)$$

and

$$v^x l_x = D_x \quad (11)$$

we may rewrite formulas (7), (8), and (9) as follows:

For formula (7)

$$\frac{C_x + C_{x+1} + C_{x+2} + \cdots + C_{x+n-1}}{D_x} \quad (12)$$

For formula (8)

$$\frac{C_x + C_{x+1} + C_{x+2} + \cdots}{D_x} \quad (13)$$

For formula (9)

$$\frac{C_x + C_{x+1} + C_{x+2} + \cdots + C_{x+n-1} + D_{x+n}}{D_x} \quad (14)$$

and if we write

$$M_x = C_x + C_{x+1} + C_{x+2} + \cdots \quad (15)$$

we shall have the following concise expressions for net single premiums:

For n -year term insurance

$$\frac{M_x - M_{x+n}}{D_x} \text{ (denoted by } A_{x:n|}) \quad (16)$$

For whole life insurance

$$\frac{M_x}{D_x} \text{ (denoted by } A_x) \quad (17)$$

For n -year endowment insurance

$$\frac{M_x - M_{x+n} + D_{x+n}}{D_x} \text{ (denoted by } A_{x:n|}) \quad (18)$$

The values of C , D , and M can be calculated for all ages and tabulated. Such tables are known as "commutation columns."

5. Net Annual Premiums. It is necessary as a preliminary to obtain the present value of a *life annuity-due* i.e., an annuity to continue for life with first payment made immediately. If l_x persons each *pay* a life annuity-due of \$1, the total present value of the l_x dollars paid in at once, the dollars paid by the survivors 1 year hence, and so on, will be

$$l_x + v l_{x+1} + v^2 l_{x+2} + \cdots$$

The value of such an annuity in respect of *each* person is therefore

$$\frac{l_x + v l_{x+1} + v^2 l_{x+2} + \cdots}{l_x} \quad (19)$$

which is denoted by \ddot{a}_x , the present value of a dollar now and a dollar at the end of every year survived by a person now aged x . If we multiply both numerator and denominator of formula (19) by v^x , we shall have

$$\begin{aligned} \ddot{a}_x &= \frac{v^x l_x + v^{x+1} l_{x+1} + v^{x+2} l_{x+2} + \cdots}{v^x l_x} \\ &= \frac{D_x + D_{x+1} + D_{x+2} + \cdots}{D_x} \end{aligned} \quad (20)$$

and if we form a new "commutation column" N_x such that

$$N_x = D_x + D_{x+1} + D_{x+2} + \cdots \quad (21)$$

we shall have

$$\ddot{a}_x = \frac{N_x}{D_x} \quad (22)$$

Ordinary Life Policy. If we denote the net annual premium for an ordinary life policy at age x by P_x , then, since the present value of a life annuity-due of P_x must obviously be equal to the net single premium for a whole life insurance, we shall have

$$P_x \times \ddot{a}_x = A_x$$

whence

$$P_x = \frac{A_x}{\ddot{a}_x} = \frac{M_x}{N_x} \quad (23)$$

Limited Annual Premiums. Referring back to formula (20) it is evident that the value of a *temporary* annuity-due of 1 to continue only until n payments have been made or until prior death is

$$\begin{aligned} \ddot{a}_{x:\overline{n}|} &= \frac{D_x + D_{x+1} + D_{x+2} + \cdots + D_{x+n-1}}{D_x} \\ &= \frac{N_x - N_{x+n}}{D_x} \end{aligned} \quad (24)$$

If ${}_n P_x$ is the annual premium limited to n payments for a whole life insurance, then

$${}_n P_x \times \ddot{a}_{x:\overline{n}|},$$

the present value of all premiums must also be equal to the net single premium, so that

$${}_nP_x \frac{N_x - N_{x+n}}{D_x} = A_x = \frac{M_x}{D_x}$$

and

$${}_nP_x = \frac{A_x}{\dot{a}_{x:\overline{n}|}} \quad (25)$$

or

$${}_nP_x = \frac{M_x}{N_x - N_{x+n}} \quad (26)$$

The reader will easily be able in the same way to show that the net annual premium for an n -year term insurance is

$$P_{x:\overline{n}|}^1 = \frac{A_{x:\overline{n}|}^1}{\dot{a}_{x:\overline{n}|}} = \frac{M_x - M_{x+n}}{N_x - N_{x+n}} \quad (27)$$

and the net annual premium for an n -year endowment insurance is

$$P_{x:\overline{n}|} = \frac{A_{x:\overline{n}|}}{\dot{a}_{x:\overline{n}|}} = \frac{M_x - M_{x+n} + D_{x+n}}{N_x - N_{x+n}} \quad (28)$$

6. Reserves (Net-level-premium plan). Regarded *prospectively*, the reserve for any policy at any time is the present value of the remaining insurance at the attained age *less* the present value of the net premiums still to be received.

For an ordinary life policy by net annual premiums of P_x effected n years ago at age x , the insured now being $(x+n)$ years old, the present value of the remaining insurance is A_{x+n} and of the remaining premiums $P_x \dot{a}_{x+n}$. The reserve (or "value") of the policy is therefore

$$A_{x+n} - P_x \dot{a}_{x+n} \quad (29)$$

On the same principles it will be evident that the reserve at the end of n years of a t -payment life policy effected at age x is

$$A_{x+n} - {}_tP_x \dot{a}_{x+n; \overline{t-n}|} \quad (30)$$

if n be less than t and

$$A_{x+n} \quad (31)$$

if n be greater than t , that is, if the policy be fully paid up, no more premiums being payable; also, that the reserve at the end of n years of a t -year endowment insurance effected at age x is

$$A_{x+n; \overline{t-n}|} - P_{x:\overline{t-n}|} \dot{a}_{x+n; \overline{t-n}|} \quad (32)$$

Regarded *retrospectively*, the reserve on an individual policy is, in all cases,

the accumulation of all net premiums received *less* the accumulation of all claims paid, divided by the number of survivors.

If l_x persons each effect an ordinary life policy at an annual premium of P_x , then

l_x persons pay a first premium

l_{x+1} persons pay a second premium

l_{x+2} persons pay a third premium

etc.

and l_{x+n-1} persons pay an n th premium

The accumulated amount of all net premiums received up to the end of n years (ignoring death claims for the present) is therefore

$$P_x[l_x(1+i)^n + l_{x+1}(1+i)^{n-1} + l_{x+2}(1+i)^{n-2} + \dots + l_{x+n-1}(1+i)]$$

and if this amount were divided equally among the surviving l_{x+n} policy-holders, the share of each would be

$$\frac{P_x[l_x(1+i)^n + l_{x+1}(1+i)^{n-1} + l_{x+2}(1+i)^{n-2} + \dots + l_{x+n-1}(1+i)]}{l_{x+n}}$$

or, multiplying numerator and denominator by v^{x+n} (and remembering that $v = \frac{1}{1+i}$),

$$\frac{P_x[v^x l_x + v^{x+1} l_{x+1} + v^{x+2} l_{x+2} + \dots + v^{x+n-1} l_{x+n-1}]}{v^{x+n} l_{x+n}} = P_x \frac{N_x - N_{x+n}}{D_{x+n}} \quad (33)$$

But the whole of this amount is, of course, not on hand, since claims have been paid each year as follows:

d_x at the end of 1 year

d_{x+1} at the end of 2 years

d_{x+2} at the end of 3 years

etc.

d_{x+n-1} at the end of n years

and these claims similarly accumulated would amount at the end of n years to

$$d_x(1+i)^{n-1} + d_{x+1}(1+i)^{n-2} + \dots + d_{x+n-2}(1+i) + d_{x+n-1}$$

which would reduce the share of each survivor as given in formula (33) by

$$\frac{d_x(1+i)^{n-1} + d_{x+1}(1+i)^{n-2} + \dots + d_{x+n-2}(1+i) + d_{x+n-1}}{l_{x+n}}$$

or, upon multiplying numerator and denominator by v^{x+n} , by

$$\frac{v^{x+1} d_x + v^{x+2} d_{x+1} + \dots + v^{x+n-1} d_{x+n-2} + v^{x+n} d_{x+n-1}}{v^{x+n} l_{x+n}}$$

i.e., by

$$\frac{M_x - M_{x+n}}{D_{x+n}} \quad (34)$$

The net "share" or reserve value is therefore, from (33) and (34),

$$\frac{P_x(N_x - N_{x+n}) - (M_x - M_{x+n})}{D_{x+n}} \quad (35)$$

It can easily be shown that this value is the same as that obtained by the prospective method, formula (29). From formula (23)

$$P_x = \frac{M_x}{N_x}$$

$$\therefore P_x N_x = M_x$$

Substituting M_x for $P_x N_x$ in formula (35) the latter becomes

$$\frac{M_{x+n} - P_x N_{x+n}}{D_{x+n}} = A_{x+n} - P_x \dot{a}_{x+n}$$

which is formula (29).

The formulas for other classes of policies can be worked out on similar principles. It should be noted, however, that, during the premium-paying period, formula (35) holds for any class of policy if the appropriate net premium be substituted for P_x , provided the premium does not vary during the premium-paying period.

APPENDIX B
ORDINARY LIFE POLICY

THE BLANK
LIFE INSURANCE COMPANY

HEREBY INSURES THE LIFE OF

RICHARD ROE

(Herein called the insured)

And agrees, subject to the provisions hereinafter stated, to pay

TEN THOUSAND

Dollars,

(Herein called the face amount)

to the Insured's wife, MARGARET H. ROE

(Herein called the beneficiary)

upon receipt of due proof of the death of the Insured, provided premiums have been duly paid and this policy is then in force and is then surrendered properly released.

This insurance is granted in consideration of the payment to the Company of a first premium of

Two hundred and ninety-four and 00/100

Dollars,

and thereafter an annual premium of

a like sum

upon each

fifteenth

day of

October

until the death of the Insured.

THE PROVISIONS of the subsequent pages hereof form a part of this contract as fully as if recited at length over the signatures hereto affixed. This policy is executed at the Home Office of the Company, the sixteenth day of October, 1947, hereinafter called the Date of Issue.

EXAMINED BY

Secretary.

President.

INSURANCE PAYABLE UPON RECEIPT OF DUE PROOF OF DEATH. PREMIUMS PAYABLE DURING LIFE UNLESS DIVIDENDS APPLIED TO SHORTEN PREMIUM PAYING PERIOD. ANNUAL DIVIDENDS.

OWNER

The Owner of this policy is the Insured unless otherwise provided by endorsement on this policy by the Company.

RIGHTS, ASSIGNMENTS AND CHANGES

Exercise of Rights of Owner. The rights conferred upon the Owner by the terms of this policy may be exercised only while the Insured is living. A person, while vested with the rights of Owner, may exercise such rights or take any other action agreed to by the Company in connection with this policy without the consent of any other person referred to in this policy except when such consent is specifically required by the terms of the policy.

Assignments. No assignment of this policy shall be binding upon the Company or be deemed to be in force as to the Company unless in writing and until filed at its Home Office. The Company assumes no responsibility for the validity of any assignment.

The Owner may assign this policy and all rights hereunder except the right to change the beneficiary and the right to make an election under the provision entitled "Optional Modes of Settlement." An assignment by the Owner, so long as it remains in force, shall exclude any and all rights of any other person referred to in this policy, except that if this policy is assigned or pledged as collateral only, any equity remaining at the maturity of this policy shall accrue to the person or persons who, had there been no assignment then outstanding, would have been entitled to the amount then payable. Upon release of all outstanding assignments or upon reassignment to the Owner, the respective rights of the several persons referred to in this policy shall be as then stated in this policy.

Beneficiary. The Owner may change the beneficiary from time to time prior to the death of the Insured, by written notice to the Company, but any such change shall be effective only if it is endorsed on this policy by the Company, and, if there is a written assignment of this policy in force and on file with the Company (other than an assignment to the Company as security for an advance), such a change may be made only with the written consent of the assignee. The interest of a beneficiary shall be subject to the rights of any assignee of record with the Company.

Upon endorsement of a change of beneficiary upon this policy by the Company, such change shall take effect as of the date the written notice thereof was signed, whether or not the Insured is living at the time of endorsement, but without further liability on the part of the Company with respect to any proceeds paid by the Company or applied under any option in this policy prior to such endorsement.

If the executors or administrators of the Insured be not expressly designated as beneficiary, any part of the proceeds of this policy with respect to which there is no designated beneficiary living at the death of the Insured and no assignee entitled thereto, will be payable in a single sum to the children of the Insured who survive the Insured, in equal shares, or should none survive, then to the Insured's executors or administrators.

Policy Changes. Subject to the Company's approval, the Owner may change this policy to another form, kind or plan of insurance, or make any other change permitted by the Company.

PREMIUMS, LAPSE AND REINSTATEMENT

Payment of Premiums. All premiums are payable in advance on or before their respective due dates at the Home Office or to any duly authorized Cashier of the Company, in exchange for a receipt signed by the President, a Vice-President, Secretary or Treasurer, and countersigned by said Cashier. Subject to the Company's written approval, premiums may be made payable annually, semi-annually or quarterly at the Company's rates in use at the Register date for premiums payable at such intervals.

Grace. A grace of thirty-one days will be granted for the payment of every premium after the first, during which period the insurance hereunder shall continue in force. No interest will be charged upon premiums paid during the days of grace. If death occurs within the days of grace, the premium then due and unpaid shall be deducted from the amount payable hereunder. The due date of a premium shall be the date as of which it falls due, and not the date of expiration of the grace period referred to herein.

Lapse and Reinstatement. Failure to pay any premium on or before its due date shall constitute a default hereunder. Upon default this policy shall lapse and, except as stated in the provisions entitled "Grace" and "Options on Surrender or Lapse," the insurance herein shall cease as of the due date of the premium in default (referred to in this policy as the date of default), but it may be reinstated at any time within five years from the date of default unless the cash value has been duly paid, upon the production of evidence of insurability satisfactory to the Company and the payment of all overdue premiums, with interest at 5% per annum, and upon the payment or the reinstatement of any indebtedness to the Company secured hereby, with interest.

DIVIDENDS AND APPLICATION THEREOF

Dividends. This policy is a participating contract except when continued as extended term insurance following lapse. The proportion of divisible surplus accruing upon this policy shall be ascertained annually by the Company. At the end of any policy year for which surplus has been apportioned to this policy as a dividend, provided premiums have been duly paid until the end of such year, the Owner may elect to have the dividend:

1. Paid in cash; or
2. Applied toward the payment of any premium due on this policy if the remainder of such premium is duly paid; or
3. Applied to provide paid-up additional whole life insurance (herein called dividend additions); or
4. Accumulated at 2% interest, compounded annually, and if in any year the Company declares that funds held under this option shall receive interest in excess of 2% per annum, the accumulation hereunder shall be increased at the end of the policy year by an excess interest dividend in an amount to be determined and apportioned by the Company. Any accumulations under this option are herein called dividend accumulations.

Note—It is not anticipated that there will be any surplus apportionable to this policy prior to the second policy year.

If the Owner does not elect one of the foregoing options within three months after the mailing by the Company of a notice requesting such election and if no election previously made is in force, the dividend shall be applied as provided under Option 3.

If this policy shall be continued as paid-up whole life insurance in accordance with Option (b) of the provision entitled "Options on Surrender or Lapse," any surplus thereafter apportioned as a dividend to this policy shall be applied as provided under Option 3.

If the Insured dies after the first policy year and while this policy is in force, such cash dividend as may be apportioned by the Company for the fraction of the then current policy year elapsed before such death will be allowed.

Provided this policy shall not have been continued as reduced paid-up whole life or extended term insurance in accordance with the provision entitled "Options on Surrender or Lapse," the Owner may at any time, subject to the provision entitled "Deferment," withdraw any dividend accumulations, or surrender any dividend additions for their cash value, which cash value shall be either the reserve for such dividend additions as of the policy anniversary coinciding with or last preceding the date of surrender, or the original cash dividend, whichever is the larger. Any dividend accumulations or dividend additions which are not withdrawn or surrendered prior to the maturity of this policy, and any dividend which may be payable upon maturity, shall be payable together with the face amount hereof to the same persons and in the same manner as the face amount hereof. If a premium due under this policy is not paid, any dividend, dividend additions or dividend accumulations not withdrawn or surrendered shall be applied in accordance with the provision entitled "Options on Surrender or Lapse."

Conversion to Paid-up Policy. This policy may be converted upon any premium due date into a participating fully paid-up whole life policy for the same face amount as this policy if upon such premium due date the reserve for the face amount of this policy and for any dividend additions plus any dividend

accumulations equals or exceeds the reserve for such paid-up policy plus the single premium required for any provision for additional indemnity in event of death by accidental means that is to be continued under the paid-up policy. Such conversion will be made by the Company upon written request by the Owner on such premium due date or within three months thereafter, provided the premium then due has not been paid, and upon the return of this policy for proper endorsement. The remainder, if any, of the dividend additions and dividend accumulations not applied to effect the conversion will be continued under the paid-up policy. Any indebtedness to the Company existing against this policy will be continued against the paid-up policy.

Maturity as Endowment. This policy may be made to mature as an endowment upon any premium due date, if upon such date the reserve for the face amount of this policy and for any dividend additions plus any dividend accumulations equals or exceeds the face amount hereof. Upon written request by the Owner on such date or within three months thereafter, provided the premium then due has not been paid, and upon surrender of this policy, the Company will pay to the Owner an amount equal to the face amount of insurance hereunder, increased by any dividend, dividend accumulations and cash value of dividend additions not used to provide such face amount, and decreased by any indebtedness to the Company existing against this policy.

DEFINITIONS AND GENERAL PROVISIONS

The Contract. This policy, and the application therefor, a copy of which is attached hereto and made a part hereof at the Date of Issue, constitute the entire contract between the parties. All statements made by the Insured or in his behalf shall be deemed representations and not warranties, and no such statement shall avoid this policy or be used in defense of a claim hereunder unless contained in the written application therefor and a copy of such application is attached hereto when issued.

All sums payable by the Company under this policy shall be payable at its Home Office.

Policy Years and Anniversaries. The first policy year under this policy shall begin on the Register date stated on the back of this policy and the second and subsequent policy years shall begin on the respective anniversaries of the Register date, which are referred to herein as policy anniversaries.

Suicide. Suicide, sane or insane, within two years from the Date of Issue, is a risk not assumed by the Company under this policy. In such an event the Company's liability shall be limited to the payment to the person entitled to receive the first payment on account of the proceeds of this policy, of a single sum equal to the premiums actually paid under this policy.

Incontestability. Except as to any provision attached to and made part of this policy relating to total and permanent disability or to additional indemnity in event of death by accidental means, this policy, provided premiums have

been duly paid, shall be incontestable after it has been in force during the lifetime of the Insured for a period of two years from its Date of Issue.

Age. If the age of the Insured has been misstated, any benefits accruing under this policy shall be adjusted to correspond to those which would accrue under a similar policy which the premium paid would have purchased at the Company's rates in use at the Register date for the Insured's correct age. The Company will, however, admit the age of the Insured if furnished with proof thereof satisfactory to the Company, and in that event will issue a certificate evidencing such admission.

Deferment. The payment of any cash value due under this policy, the payment of any dividend accumulations, and the making of any advance, if for a purpose other than to pay premiums on policies in the Company, may be deferred by the Company for a period not exceeding six months after receipt of application therefor. The Company shall allow interest at the rate of $2\frac{1}{2}\%$ per annum on any such payment of cash value or dividend accumulations thus deferred for thirty days or more.

LOANS

At any time during a policy year at the end of which a cash value is provided for under this policy, if this policy is in force and premiums have been duly paid, the Owner may obtain an advance from the Company of a sum not exceeding the loan value (as hereinafter defined) on proper assignment of this policy and on the sole security hereof. An advance, with any interest due or accrued thereon, shall constitute an indebtedness to the Company against this policy. The Company shall deduct from any advance the outstanding indebtedness to the Company against this policy, including interest due or accrued to the date of such advance, and may also deduct any unpaid balance of the premium for the current policy year.

The advance shall bear interest at the effective rate of 5% per annum payable on each policy anniversary following the making of the advance, except that if a recurring premium shall not become due upon such policy anniversary, interest shall be payable upon the earliest date in each policy year on which a recurring premium falls due. If this policy becomes a fully paid-up whole life policy, interest shall be payable on each policy anniversary.

The loan value is that amount which, together with interest thereon to the next policy anniversary, is equal to the cash value, as of the end of the current policy year, of this policy (determined in accordance with the Table of Loan and Surrender Values) and of any dividend additions, increased by the amount of any dividend accumulations.

Interest shall accrue from day to day and shall become a part of the indebtedness to the Company against this policy as it accrues. If not paid when due, interest shall be added to the existing advance and shall bear interest at the same rate. Failure to repay any advance or to pay interest thereon shall not

avoid this policy except that this policy shall terminate and become void at any time when the total indebtedness equals or exceeds the loan value (as defined in the paragraph immediately preceding) at that time, provided thirty-one days' prior notice shall have been mailed by the Company to the Owner and the assignee of record, if any, at their addresses last known to the Company.

Any indebtedness may be repaid at any time during the lifetime of the Insured, provided the grace period following the date of default in the payment of a premium has not expired. Any indebtedness to the Company existing against this policy at its maturity may not be repaid in cash, but shall be deducted in a single sum in any settlement hereunder.

The making of any advance shall be subject to the provision entitled "Deferment."

OPTIONS ON SURRENDER OR LAPSE

In event of default in the payment of a premium falling due at a time when a cash value is provided in accordance with the Table of Loan and Surrender Values, the Owner, within three months after the due date of such premium, may elect one of the following options:

(a) Cash Value: To surrender this policy and to receive its net cash value, as hereinafter defined, as of the date of default; or

(b) Reduced Paid-up Whole Life Insurance: To continue this policy as participating paid-up whole life insurance, payable at the time and on the conditions provided in this policy (without any additional benefit in event of death by accidental means), for such an amount as the net cash value of this policy as of the date of default will purchase as a net single premium at the Insured's age at nearest birthday at the date of default; or

(c) Paid-up Extended Term Insurance: To continue the insurance as non-participating paid-up extended term insurance (without any additional benefit in event of death by accidental means) for an amount of insurance equal to the face amount of this policy plus the amount of any dividend additions and the amount of any dividend accumulations with interest to the date of default, less the amount of any indebtedness to the Company existing against this policy, and for such period from the due date of the premium in default as the net cash value of this policy as of the date of default will purchase as a net single premium at the Insured's age at nearest birthday at the date of default. Such extended term insurance shall be without the right to loans.

If one of said options is not elected within three months after the date of default, the insurance shall be continued as provided under Option (c). In event of the death of the Insured after the end of the grace period but within three months from the date of default, the amount payable under this policy, if no option has been elected, shall be the same as though Option (c) had been elected.

In event of default in the payment of a premium falling due at a time when

no cash value is provided in accordance with the Table of Loan and Surrender Values, any dividend credited to this policy and not elected in cash shall be applied as under Option (c).

The net cash value of this policy referred to in Options (a), (b) and (c) shall be the cash value for the face amount (determined in accordance with the Table of Loan and Surrender Values) on the date as of which the value is being computed, increased by the cash value as of that date of any dividend additions and the amount of any dividend accumulations with interest to that date, and decreased by the amount of any indebtedness to the Company existing against this policy.

If this policy is continued as paid-up insurance under Option (b) or Option (c), the Owner may surrender the policy at any time for a cash value equal to the reserve on such insurance at the date of surrender, based on the Insured's age at nearest birthday, less, in the case of Option (b), the amount of any indebtedness to the Company existing against this policy.

The payment of any cash value due under this policy shall be subject to the provision entitled "Deferment."

Basis of Computation. The net single premiums and reserves referred to in this policy shall be computed on the basis of the Commissioners 1941 Standard Ordinary Mortality Table and compound interest at $2\frac{1}{2}\%$ per annum, and upon the assumption that death benefits are payable immediately upon death of the Insured. Any additional benefits in the event of death by accidental means or in the event of total and permanent disability, and the reserves and premiums therefor, shall be excluded from such computation.

The cash value in the Table of Loan and Surrender Values at the end of a policy year is equal to the excess of (i) the net single premium for \$1,000 face amount of whole life insurance, over (ii) the net single premium for an annual life annuity due of an amount equal to the applicable non-forfeiture factor or factors shown in the Table of Loan and Surrender Values. Such net single premiums shall be for the Insured's age at nearest birthday at the end of the policy year. The cash value at the end of the third and each subsequent policy year shall be at least equal to the excess of the net level premium reserve for \$1,000 of face amount over \$25 and in no event shall be less than one dollar. The cash values and paid-up insurance benefits under this policy are not less than the minimum values and benefits required by any statute of the state in which this policy is delivered.

TABLE OF LOAN AND SURRENDER VALUES

The values in this table are exclusive of any dividend additions and any dividend accumulations, and are subject to reduction on account of any indebtedness against this policy.

The values stated are applicable only at the ends of the policy years shown provided premiums are duly paid. The cash value as of a date during a policy year at the end of which there is a value shall be computed with pro rata adjustment for any fractional premium paid during such year.

Where an age is shown in the first column below, the values are those applicable at the policy anniversary nearest the birthday on which the Insured attains that age.

If premiums are paid to the end of a given year, the loan obtainable at the end of that year may be secured during that year, less interest, as set forth in the provision entitled "Loans."

Values for any years not shown will be computed on the same actuarial basis and will be furnished on request.

End of policy year	For each \$1,000 of face amount		For face amount	
	Cash or loan value	Paid-up whole life insurance	Period of paid-up extended term insurance	
			Years	Days
1	\$ 0	\$ 0	0	0
2	4	9	0	287
3	26	54	4	200
4	44	89	6	340
5	62	122	8	304
6	82	159	10	206
7	102	194	11	349
8	123	229	13	55
9	143	261	14	13
10	164	294	14	296
11	185	326	15	158
12	207	358	15	359
13	228	388	16	131
14	250	418	16	256
15	271	445	16	331
16	291	470	16	364
17	310	492	16	361
18	329	514	16	342
19	348	535	16	311
20	367	555	16	268
21	387	576	16	229
22	406	595	16	167
23	425	614	16	97
24	444	632	16	21
25	463	650	15	305
30	554	726	14	167
Age				
60	463	650	15	305
65	554	726	14	167

Non-forfeiture factors per \$1,000 of face amount referred to in
"Basis of Computation":

For first 15 policy years \$23.495
Thereafter \$20.750

ORDINARY LIFE
AGE 35

OPTIONAL MODES OF SETTLEMENT

ELECTIONS

Subject to the provisions hereinafter set forth, the following elections may be made to have the whole or any part of the net sum due under this policy applied under the options set forth below.

With Respect to Net Sum Due at Maturity by Death. Before the death of the Insured, the Owner may elect one, or subject to the Company's approval, more than one, of the following options for the benefit of the beneficiary, with the right to revoke or to change such election before the death of the Insured. An election in effect at the death of the Insured may not be revoked or changed by election made after the death of the Insured.

If no election for settlement under an option is effective, the beneficiary, after the death of the Insured, may elect Option 1, 2 or 4, or, subject to the Company's approval, more than one of said options, for the benefit of the beneficiary.

With Respect to Cash Value or Endowment Maturity Value. If this policy is surrendered for its cash value on or after the fifth policy anniversary or if it matures as an endowment, the Owner may elect to have the net sum due applied for the benefit of the Insured under one, or, subject to the Company's approval, more than one, of the following options.

OPTIONS

1. **Deposit Option.** Left on deposit with the Company for such period, and with such rights of withdrawal during such period, as may be approved by the Company at the time of election of this option. The Company will pay interest at the rate of $2\frac{1}{4}\%$ per annum during each deposit year (hereinafter defined) on that portion of the amount so held which is not subject to withdrawal at any time during such deposit year, and will pay interest at the rate of $1\frac{1}{2}\%$ per annum during each deposit year on that portion which is subject to withdrawal during such deposit year. If in any year the Company declares that funds held under this option shall receive interest in excess of the guaranteed rate, the interest under this option shall be increased for that year by an excess interest dividend as determined and apportioned by the Company. The interest and any excess interest dividend may be paid annually, or in semi-annual, quarterly or monthly instalments, in accordance with the election. The first deposit year shall begin on the date this option becomes operative, and subsequent deposit years shall begin on the respective anniversaries of such date.

2. **Instalment Option: Fixed Period.** Made payable in equal annual, semi-annual, quarterly or monthly instalments for any number of years set forth in the Table of Instalments. The instalments, which include interest at the effective rate of $2\frac{1}{4}\%$ per annum, shall be determined in accordance with

said table, and the first instalment will be due upon the date on which the option becomes operative. If in any year the Company declares that funds held under this option shall receive interest in excess of $2\frac{1}{4}\%$ per annum, the instalment payable on the anniversary, in that year, of the due date of the first instalment, shall be increased by an excess interest dividend as determined and apportioned by the Company. Unpaid instalments under this option may not be commuted except under conditions approved by the Company at the time of election of this option. Any commutation will be on the basis of $2\frac{1}{4}\%$ per annum compound interest.

3. Life Income Option. Made payable as a life income in equal annual, semi-annual, quarterly or monthly instalments on one of the following bases:

A. *10 or 20 Years Certain:* Instalments shall be paid during the lifetime of the person upon whose life the income depends, with a guarantee that instalments shall in any event be paid for a period of ten or twenty years certain, as elected. The instalments shall terminate with the last payment preceding the death of such person or the end of the certain period, whichever is later.

B. *Refund Certain:* Instalments shall be paid during the lifetime of the person upon whose life the income depends, terminating with the last instalment preceding the death of such person, except that instalments shall in any event be paid until the total amount of the instalments (exclusive of any dividends) equals the net sum applied under this option, the final payment to be of an amount equal to the excess of such net sum over the total instalments previously paid.

The first instalment will be due upon the date on which the option becomes operative. The amount of the instalments shall be determined in accordance with the Table of Instalments, and shall be based on the sex and age of the person upon whose life the income depends. The age shall be taken as the age of such person at the birthday nearest the due date of the first instalment except that the age so determined shall be reduced by one year if the sum applied under the option is the cash value or endowment maturity value, or any part thereof. Before commencing payments, the Company will require satisfactory evidence of the age of such person. If in any year the Company declares that funds held under this option shall receive an excess interest or other dividend, the instalment payable on the anniversary, in that year, of the due date of the first instalment shall be increased by the dividend as determined and apportioned by the Company. Instalments shall be without the right of commutation.

4. Instalment Option: Fixed Amount. Left with the Company as a fund to be credited with interest at the effective rate of $2\frac{1}{4}\%$ per annum on the unpaid fund, and from such fund shall be paid, until the fund is exhausted, periodic instalments of such amount as may be approved by the Company, the final instalment to be the unpaid sum left with the Company. The first instalment will be due on the date this option becomes operative. If in any year the Company declares that funds held under this option shall receive interest

in excess of $2\frac{1}{4}\%$ per annum, the interest under this option shall be increased for that year by an excess interest dividend as determined and apportioned by the Company. Withdrawals from the unpaid fund may be made under this option at such times and to such extent during an instalment year (each such year beginning on the date this option becomes operative or an anniversary thereof) as may be approved by the Company at the time of election of this option.

GENERAL PROVISIONS RELATING TO OPTIONAL MODES OF SETTLEMENT

The payee for whose benefit an option is operative may designate (with the right to change such designation) a person or persons to receive any amount which would otherwise become payable to the executors or administrators of such payee.

Any election, revocation or designation must be in writing duly filed with the Company at its Home Office. An election or revocation with respect to the net sum due at maturity, if made before the maturity of this policy, or a designation provided for in the preceding paragraph, shall be effective only if it is endorsed by the Company upon this policy (or upon the supplementary contract if one has been issued). If there is a written assignment of this policy in force and on file with the Company (other than an assignment to the Company as security for an advance), the foregoing options may be elected or changed only with the Company's consent and the written consent of the assignee.

Upon endorsement, an election, revocation or designation shall take effect as of the date it was signed whether or not the signer is living at the time of endorsement, but without further liability on the part of the Company with respect to any proceeds paid by the Company or applied under any option in this policy prior to such endorsement.

If the Owner effects a change of beneficiary under this policy, any previously elected option shall be void.

If on a date when an option would have become operative the amount to be applied with respect to a payee under this policy and any other policy or policies in the Company on the life of the Insured, and payable in the same manner to that payee, shall in the aggregate be less than \$1,000, the amount under this policy which otherwise would have been applied under such option shall be paid in a single sum to such payee in lieu of being so applied.

The foregoing options may not be elected by an assignee, or when the payee is a corporation, partnership, association, trustee, executor, administrator or other fiduciary. If an assignment of this policy is in force and on file with the Company, the Company shall have the right to deduct from the net sum due under this policy the amount payable to the assignee and to pay such amount to the assignee in a single sum, and settlement of the remainder, if any, of said

net sum shall be made in accordance with the terms of this policy. Such payment to an assignee shall fully discharge the Company's liability under this policy with respect to the sum so paid.

The Company reserves the right to defer the payment of any amount which after being applied under the options is withdrawn upon the exercise of a withdrawal right, for a period not exceeding six months after receipt of application therefor.

If at the death of any payee there is no designated person then living entitled to receive any remaining payments, the Company will pay in a single sum, to such payee's executors or administrators:

- (a) any unpaid sum left with the Company under Option 1 or 4, together with any interest accrued thereon, or
- (b) the commuted value (on the basis of $2\frac{1}{4}\%$ per annum compound interest) of the remaining unpaid guaranteed instalments under Option 2 or 3.

If the fractional year's instalments or interest payments to any payee would amount to less than \$10 each, the Company reserves the right to pay at such intervals as will make the payments amount to at least \$10 each.

If any payment depends upon the survival of the payee, the Company will make such payment by check which will require the personal endorsement of the payee as proof of survival. If any payment depends upon the survival of any person other than the payee, evidence satisfactory to the Company of the survival of such person on the due date of such payment must be furnished.

No sum payable under any Optional Mode of Settlement elected by the Owner for the benefit of a payee other than the Owner may be assigned, commuted, or encumbered by such payee and, to the extent permitted by law, no such sum shall in any way be subject to any legal process to levy upon or attach the same for the payment of any claim against such payee.

ANNUITY OPTION

Subject to the provisions hereinafter set forth, an election may be made to have the whole or any part of the net sum due under this policy applied as a single consideration for the purchase of any kind of single consideration annuity issued by the Company at the time the amount is so applied. The amount of annuity shall be 103% of the amount which the sum applied hereunder would purchase on the basis of the Company's published rates then current. As evidence of such election, a supplementary contract will be issued by the Company.

Election with Respect to Net Sum Due at Maturity. If upon the maturity of this policy, the net sum due is payable in a single sum, the payee may make an election under this option for the purchase of an annuity on the life of the payee. If Option 1 of the provision entitled "Optional Modes of Settlement" is elected, the election may include a right to the payee to make an election

under this option with respect to any amount left on deposit for the benefit of the payee.

Election with Respect to Cash Value. If this policy is surrendered for its cash value, the Owner may elect to have the net cash value applied under this option for the purchase of an annuity on the lives of the Insured and the beneficiary or on the life of either the Insured or the beneficiary.

General Conditions. Any election shall be made upon proper application, in writing, filed with the Company at its Home Office.

An annuity may not be elected under this option:

- (a) if the annuity payments thereof would amount to less than \$10 each, or
- (b) by an assignee, or when the payee is a corporation, partnership, association, trustee, executor, administrator or other fiduciary.

The Company will require satisfactory evidence of the age or ages of the person or persons upon whose life or lives the annuity will depend.

**TABLE OF INSTALMENTS UNDER OPTIONAL MODES
OF SETTLEMENT FOR EACH \$1,000 OF PROCEEDS**

OPTION 2

Number of years' instalments	Monthly instalment	Annual instalment	Number of years' instalments	Monthly instalment	Annual instalment
2	\$42.56	\$505.56	17	\$5.88	\$69.87
3	28.69	340.78	18	5.61	66.68
4	21.76	258.40	19	5.37	63.83
5	17.60	209.00	20	5.16	61.26
6	14.82	176.07	21	4.96	58.95
7	12.84	152.57	22	4.79	56.85
8	11.36	134.95	23	4.62	54.93
9	10.21	121.25	24	4.48	53.18
10	9.29	110.31	25	4.34	51.58
11	8.53	101.36	26	4.22	50.09
12	7.91	93.90	27	4.10	48.73
13	7.38	87.61	28	4.00	47.46
14	6.92	82.21	29	3.90	46.28
15	6.53	77.54	30	3.80	45.18
16	6.18	73.46			

OPTION 3—LIFE INCOME

To determine the amount of instalment, the age shall be taken as the age (at the birthday nearest the due date of the first instalment) of the person upon whose life the income depends, except that the age so determined shall be reduced by one year if the sum applied under the option is the cash value or endowment maturity value, or any part thereof.

Age (see above)		10 Years certain		20 Years certain		Refund certain	
Male	Female	Monthly instal- ment	Annual instal- ment	Monthly instal- ment	Annual instal- ment	Monthly instal- ment	Annual instal- ment
..	10 & under	\$2.47	\$29.24	\$2.46	\$29.13	\$2.44	\$28.87
..	11	2.48	29.42	2.48	29.31	2.45	29.05
..	12	2.50	29.61	2.49	29.49	2.47	29.23
..	13	2.52	29.80	2.51	29.69	2.48	29.42
..	14	2.54	30.01	2.52	29.89	2.50	29.61

OPTION 3—LIFE INCOME—Continued

Age (see above)		10 Years certain		20 Years certain		Refund certain	
Male	Female	Monthly instal- ment	Annual instal- ment	Monthly instal- ment	Annual instal- ment	Monthly instal- ment	Annual instal- ment
10 & under	15	\$2.55	\$30.22	\$2.54	\$30.10	\$2.52	\$29.81
11	16	2.57	30.44	2.56	30.31	2.54	30.02
12	17	2.59	30.66	2.58	30.53	2.55	30.23
13	18	2.61	30.90	2.60	30.77	2.57	30.45
14	19	2.63	31.15	2.62	31.01	2.59	30.68
15	20	2.65	31.40	2.64	31.25	2.61	30.91
16	21	2.68	31.67	2.66	31.51	2.63	31.15
17	22	2.70	31.94	2.69	31.78	2.66	31.41
18	23	2.73	32.23	2.71	32.06	2.68	31.67
19	24	2.75	32.53	2.74	32.35	2.70	31.93
20	25	2.78	32.84	2.76	32.65	2.72	32.21
21	26	2.81	33.16	2.79	32.95	2.75	32.50
22	27	2.83	33.50	2.81	33.28	2.77	32.80
23	28	2.86	33.85	2.84	33.61	2.80	33.11
24	29	2.90	34.22	2.87	33.95	2.83	33.43
25	30	2.93	34.60	2.90	34.31	2.86	33.75
26	31	2.96	34.99	2.93	34.68	2.89	34.10
27	32	3.00	35.41	2.97	35.06	2.92	34.45
28	33	3.04	35.84	3.00	35.46	2.95	34.81
29	34	3.07	36.28	3.04	35.86	2.98	35.19
30	35	3.11	36.75	3.07	36.29	3.01	35.58
31	36	3.16	37.23	3.11	36.72	3.05	35.99
32	37	3.20	37.74	3.15	37.17	3.09	36.41
33	38	3.24	38.26	3.19	37.64	3.12	36.84
34	39	3.29	38.80	3.23	38.12	3.16	37.29
35	40	3.34	39.37	3.27	38.61	3.20	37.75
36	41	3.39	39.96	3.31	39.12	3.24	38.24
37	42	3.44	40.57	3.36	39.65	3.29	38.74
38	43	3.50	41.21	3.41	40.19	3.33	39.25
39	44	3.56	41.88	3.45	40.74	3.38	39.79

OPTION 3—LIFE INCOME—Continued

Age (see above)		10 Years certain		20 Years certain		Refund certain	
Male	Female	Monthly instalment	Annual instalment	Monthly instalment	Annual instalment	Monthly instalment	Annual instalment
40	45	\$3.61	\$42.57	\$3.50	\$41.31	\$3.43	\$40.34
41	46	3.68	43.29	3.55	41.89	3.48	40.92
42	47	3.74	44.04	3.60	42.49	3.53	41.52
43	48	3.81	44.82	3.66	43.11	3.58	42.13
44	49	3.88	45.63	3.71	43.74	3.64	42.78
45	50	3.95	46.48	3.76	44.38	3.69	43.45
46	51	4.03	47.36	3.82	45.03	3.75	44.13
47	52	4.11	48.28	3.88	45.69	3.82	44.85
48	53	4.19	49.24	3.93	46.37	3.88	45.60
49	54	4.28	50.23	3.99	47.05	3.95	46.38
50	55	4.37	51.27	4.05	47.75	4.02	47.18
51	56	4.46	52.34	4.11	48.45	4.09	48.02
52	57	4.55	53.46	4.17	49.15	4.17	48.89
53	58	4.66	54.63	4.23	49.85	4.25	49.80
54	59	4.76	55.84	4.29	50.56	4.33	50.75
55	60	4.87	57.09	4.35	51.26	4.42	51.73
56	61	4.98	58.39	4.40	51.95	4.50	52.76
57	62	5.10	59.74	4.46	52.64	4.60	53.82
58	63	5.22	61.14	4.52	53.32	4.70	54.93
59	64	5.34	62.59	4.57	53.98	4.80	56.09
60	65	5.47	64.08	4.63	54.62	4.90	57.30
61	66	5.60	65.63	4.68	55.25	5.01	58.56
62	67	5.74	67.22	4.73	55.85	5.13	59.87
63	68	5.88	68.85	4.77	56.42	5.25	61.24
64	69	6.02	70.53	4.82	56.97	5.38	62.69
65	70	6.17	72.25	4.86	57.48	5.51	64.17
66	71	6.32	74.00	4.90	57.96	5.65	65.75
67	72	6.48	75.79	4.93	58.40	5.79	67.38
68	73	6.63	77.60	4.97	58.81	5.95	69.09
69	74	6.79	79.44	5.00	59.18	6.10	70.89

OPTION 3—LIFE INCOME—Continued							
Age (see above)		10 Years certain		20 Years certain		Refund certain	
Male	Female	Monthly instalment	Annual instalment	Monthly instalment	Annual instalment	Monthly instalment	Annual instalment
70	75	\$6.94	\$ 81.30	\$5.02	\$59.52	\$ 6.27	\$ 72.75
71	76	7.10	83.16	5.05	59.81	6.45	74.71
72	77	7.26	85.02	5.07	60.07	6.63	76.79
73	78	7.41	86.87	5.09	60.30	6.82	78.92
74	79	7.57	88.71	5.10	60.50	7.02	81.17
75	80	7.72	90.52	5.11	60.66	7.23	83.57
76	81	7.87	92.28	5.12	60.80	7.46	86.01
77	82	8.01	94.00	5.13	60.91	7.69	88.62
78	83	8.14	95.66	5.14	61.00	7.94	91.38
79	84	8.27	97.25	5.14	61.07	8.20	94.20
80	85 & over	8.40	98.77	5.15	61.13	8.47	97.22
81		8.51	100.19	5.15	61.17	8.76	100.43
82		8.62	101.52	5.15	61.21	9.07	103.69
83		8.72	102.76	5.16	61.23	9.39	107.19
84		8.81	103.89	5.16	61.24	9.72	110.97
85 & over		8.89	104.91	5.16	61.25	10.08	114.73
The semi-annual and quarterly instalments are 50.28% and 25.21% respectively of the annual instalment under Option 2, and not less than those respective percentages under Option 3.							

COPY OF APPLICATION

NOTE.—Please examine this copy carefully, and if any error or omission is found, send immediately full particulars, with the number of the policy, to the Home Office of the Company.

APPENDIX C
GROUP LIFE POLICY

BLANK LIFE INSURANCE COMPANY

(Herein Called the Insurance Company)

IN CONSIDERATION

of the application for this Policy made by

A. B. C. COMPANY

(Herein called the employer)

a copy of which application is attached hereto and made a part hereof, and in consideration of the payment by the Employer of the initial premium and of the payment hereafter by the Employer, during the continuance of this Policy, of all premiums when they fall due as hereinafter provided,

HEREBY AGREES

to make the payments herein provided, with respect to the several Employees insured hereunder, in accordance with and subject to the provisions of this Policy.

The Provisions hereinafter contained are part of this Group Policy as fully as if recited over the signatures hereto affixed.

In Witness Whereof, the Blank Life Insurance Company has caused this Policy to be executed this third day of January, 1950,

to take effect as of the first day of January, 1950

which last date is the date of issue hereof.

Secretary

Registrar.

President.

Group Policy
Life Insurance

Contributory

Annual Distribution of Divisible Surplus

Section 1. DEFINITION OF THE WORD "EMPLOYEE."—The word "Employee" as used in this Policy means a full-time employee who is directly employed and compensated for services by the Employer.

Section 2. ELIGIBILITY OF EMPLOYEES.—All Employees employed on or prior to the date of issue of this Policy are eligible for insurance hereunder on the date of issue of this Policy. Employees employed subsequent to the date of issue of this Policy shall be eligible for insurance hereunder on the day immediately following the date of completion of three months of continuous service.

Section 3. EFFECTIVE DATES OF INSURANCE.—An Employee may become insured hereunder only by making written request to the Employer on forms furnished by the Insurance Company. The insurance on any Employee who makes such request on or before the date of his eligibility shall become effective on the date of his eligibility, provided

<u>X</u>	<u>X</u>	<u>X</u>
X	X	X

he is actively at work on the date of his eligibility. The insurance on any Employee who makes such request after the date of his eligibility and on or before the thirty-first day following the date of his eligibility, or on or before the thirty-first day following the date of his return to active work if he is not actively at work on the date of his eligibility, shall become effective, provided he is then actively at work, on the

<u>X</u>	<u>X</u>	<u>X</u>
X	X	X

date of such request. Any Employee making such request after such thirty-first day and any Employee requesting reinstatement of his insurance hereunder after his insurance hereunder has been discontinued in accordance with item (B) of Section 5 hereof, must furnish at his own expense evidence of insurability satisfactory to the Insurance Company before he may be insured hereunder. Any such insurance shall become effective, provided the Employee is then actively at work, on the

<u>X</u>	<u>X</u>	<u>X</u>
X	X	X

date the Insurance Company accepts a satisfactory such evidence of insurability. The insurance on any Employee not actively at work on the date when his insurance hereunder would otherwise become effective shall become effective on the next following

<u>day</u>	<u>day</u>	<u>day</u>
day	day	day

on which he is actively at work.

Section 4. EMPLOYEES' CONTRIBUTIONS.—No Employee insured hereunder shall be required to contribute to the cost of his insurance more than the maximum amount specified in Section 6 hereof in accordance with the insurance in force hereunder on his account.

Section 5. CESSATION OF INSURANCE.—(A) The Life Insurance on any Employee insured hereunder shall automatically cease on the date of the termination of his employment.

Termination of employment, for the purposes of Life Insurance hereunder, means cessation of active work as an Employee as defined in Section 1 hereof, except that

- (i) in case of the absence of an Employee from active work because of sickness, injury or retirement on pension, his employment may, for the purposes of his Life Insurance hereunder, be deemed to continue until terminated by the Employer, or
- (ii) in case of the absence of an Employee from active work because of leave of absence or temporary lay-off, his employment may, for the purposes of his Life Insurance hereunder, be deemed to continue until terminated by the Employer but in no case beyond the expiration of a period of two months following the date
such leave of absence or lay-off commenced.

In the case of either of the above exceptions, the Life Insurance hereunder on such Employee shall automatically cease on the date of such termination of his employment by the Employer, as evidenced to the Insurance Company by the Employer, whether by notification or by cessation of premium payment on account of such Employee's Life Insurance hereunder.

(b) The insurance on any Employee insured hereunder who shall have notified the Employer that his insurance hereunder is to be discontinued shall automatically cease on the _____
date

such notice of discontinuance is received by the Employer.

If any Employee fails to make any contribution when due, as required by the Employer, to the cost of his insurance hereunder, his insurance hereunder shall automatically cease on the date of the expiration of the last period for which he made such contribution.

(c) In any event all insurance hereunder shall automatically cease upon the discontinuance of this Policy.

Section 6. AMOUNT OF INSURANCE.—The amount of insurance hereunder on any Employee shall be in accordance with the schedule set forth below and any increase or decrease in the amount of such insurance, in accordance with said schedule, shall become effective, provided the Employee is then actively at work, on the date of change in the Employee's earnings class

_____; if such Employee is not then actively at work, such change in the amount of insurance shall become effective on the next following day on which he is actively at work

SCHEDULE OF INSURANCE AND EMPLOYEES'
MAXIMUM CONTRIBUTIONS

<u>Class</u>	<u>Amount of Life Insurance</u>	<u>Maximum Amount Which an Employee May Contribute</u>
<i>Employees earning annually:</i>		
<i>Less than \$1,000.00</i>	<i>\$1,000.00</i>	<i>\$0.60 monthly</i>
<i>\$1,000.00 but less than \$2,000.00</i>	<i>1,500.00</i>	<i>0.90 monthly</i>
<i>\$2,000.00 but less than \$5,000.00</i>	<i>2,000.00</i>	<i>1.20 monthly</i>
<i>\$5,000.00 or more</i>	<i>2,500.00</i>	<i>1.50 monthly</i>

Section 7. INSURING CLAUSE.—Upon receipt by the Insurance Company of satisfactory proof, in writing, that any Employee insured hereunder shall have died while an Employee of the Employer, as defined in Section 1 hereof, the Insurance Company shall pay, subject to the terms hereof, to the Beneficiary of record of such Employee, the amount of Life Insurance, if any, in force hereunder on account of such Employee, in accordance with Section 6 hereof, at the date of his death.

Section 8. DEATH BENEFIT IN THE EVENT OF TOTAL DISABILITY.—

1. If any Employee, while insured hereunder and prior to his sixtieth birthday, becomes totally disabled as a result of bodily injury or disease so as to be wholly prevented thereby from engaging in any and every business or occupation and from performing any work for compensation or profit, and continues to be so totally disabled uninterruptedly beyond the termination of his employment and until the date of his death, then upon receipt of satisfactory proof of such death (and provided no Death Benefit is payable under the provisions of subsection 2 of Section 9 hereof), the Insurance Company shall pay to the Beneficiary of record the amount of the Employee's Life Insurance in force hereunder at the date of the termination of his employment, provided

- (A) that initial satisfactory proof that such total disability exists and has continued uninterruptedly for at least nine months is submitted either before the termination of the Employee's employment (as defined in item (A) of Section 5 hereof) or within one year thereafter, and
- (B) that acknowledgment of the receipt of such initial satisfactory proof is endorsed on the Employee's certificate by the Insurance Company, and

- (c) that each year, within the three months preceding the anniversary of such endorsement, during the entire remainder of the Employee's lifetime, further satisfactory proof is submitted that such total disability continues, and
- (d) that upon the death of the Employee, satisfactory proof is submitted that such total disability continued to the date of his death.

If, however, the Employee's death occurs within one year after the termination of his employment and before any such proofs have been submitted, then satisfactory proof that the Employee was totally disabled uninterruptedly from the date of the termination of his employment to the date of his death must be submitted within one year after the date of his death.

- 2. All such proofs of total disability and of death must be submitted in writing to the Insurance Company at its Home Office or at one of its Head Offices on the initiative of the disabled Employee or by someone on his behalf, without any obligation on the part of the Insurance Company to request any such proof.
- 3. Whenever proof of the Employee's total disability is submitted, the Insurance Company shall have the right and opportunity to have him examined by physicians designated by it.
- 4. If the Employee ceases to be so totally disabled or fails to submit any required proof within the time prescribed therefor, his rights under this Section shall automatically and immediately cease.
- 5. If an individual policy of Life Insurance has been issued in accordance with the provisions of the following Section, payment may be made under the provisions of this Section only if such individual policy is surrendered to the Insurance Company without claim thereunder. In such case, any premiums paid on such individual policy shall be refunded by the Insurance Company to the Beneficiary of record of the Employee.

Section 9. PRIVILEGE OF OBTAINING AN INDIVIDUAL POLICY OF LIFE INSURANCE.—

- 1. Any Employee, upon written application made to the Insurance Company within thirty-one days after either
 - (i) the date of the termination of his employment, or
 - (ii) the date of the discontinuance of this Policy, provided such date is five years or more after the effective date of his insurance hereunder, or
 - (iii) the date of the cessation pursuant to subsection 4 of the preceding Section, of his rights under that Section.

shall be entitled to have issued to him by the Insurance Company, without evidence of insurability, an individual policy of Life Insurance only without Disability or Accidental Means Death Benefits, subject to the following conditions and provisions:

- (A) such individual policy shall be upon one of the forms then customarily issued by the Insurance Company, except Term Insurance, and
 - (B) the premium for such individual policy shall be the premium applicable to the class of risk to which the Employee belongs and to the form and amount of the individual policy at the Employee's attained age (nearest birthday) at the date of issue of such individual policy, and
 - (c) the amount of such individual policy shall be equal to (or at the option of the Employee less than) the amount of the Employee's Life Insurance or Death Benefit hereunder, as the case may be, on whichever of the dates specified in paragraphs (i), (ii) and (iii) above is applicable, except that if the Employee's Life Insurance hereunder ceases because of the discontinuance of this Policy five years or more after the effective date of his insurance hereunder, the amount of such individual policy shall not exceed the lesser of
 - (a) the amount of the Employee's Life Insurance hereunder at the date of the cessation of such insurance, reduced by any amount of Life Insurance for which he may be or may become eligible under any Group Policy issued or reinstated by the Insurance Company or by any other insurer within thirty-one days after such cessation, and
 - (b) \$2,000.
2. Any individual policy of Life Insurance^{*} so issued shall become effective not earlier than the expiration of the thirty-one-day period during which application for such individual policy may be made. If, however, the Employee dies during such thirty-one-day period, the Insurance Company shall pay to his Beneficiary of record, whether or not the Employee shall have made application for such individual policy, the maximum amount of Life Insurance for which an individual policy could have been issued under this Section. If the Employee shall have been entitled to make such application pursuant to paragraph (iii) of subsection 1 of this Section and shall die within one year after the termination of his employment but before his certificate shall have been endorsed in accordance with the provisions of Section 8 hereof, then satisfactory proof of the Employee's death within such thirty-one-day period and that he was totally disabled uninterruptedly from the date of the termination of his employment to within thirty-one days of the date of his death must be submitted to the Insurance Company within one year after the date of his death.

Section 10 INCONTESTABILITY.—This Policy and the application of the Employer, a copy of which is attached hereto, constitute the entire contract between the parties and, except for nonpayment of premiums, shall be incontestable after one year from the date of issue of the Policy.

All statements made by the Employer shall, in the absence of fraud, be deemed representations and not warranties and no such statement shall avoid the insurance or reduce benefits under this Policy or be used in defense of a claim hereunder unless it is contained in the written application.

Section 11. AGENTS; ALTERATIONS.—No Agent is authorized to alter or amend this Policy, to accept premiums in arrears or to extend the due date of any premium, to waive any proof of claim required by this Policy, or to extend the date before which any such proof must be submitted.

No change in this Policy shall be valid unless approved by an executive officer of the Insurance Company and evidenced by endorsement hereon, or by amendment hereto signed by the Employer and by the Insurance Company.

Section 12. CERTIFICATES.—The Insurance Company will issue to the Employer, for delivery to each Employee insured hereunder, an individual certificate which shall state the insurance to which such Employee is entitled under this Policy and to whom benefits are payable, and shall summarize the provisions of this Policy principally affecting the Employee.

The certificate delivered to an Employee insured hereunder shall be surrendered to the Insurance Company after the death of the Employee before the Insurance Company shall pay any benefits to his Beneficiary. Such certificate must be returned to the Insurance Company for appropriate endorsement or exchange before the Employee may exercise any privileges hereunder. The word "certificate" as used in this Policy includes certificate riders and certificate supplements, if any.

Section 13. CHANGE OF BENEFICIARY.—Any Employee insured hereunder may, from time to time, change the Beneficiary designated in his certificate by filing written notice thereof with the Insurance Company accompanied by the certificate of such Employee. Such change shall take effect upon endorsement thereof by the Insurance Company on such certificate and unless the certificate is so endorsed, the change shall not take effect. After such endorsement, the change shall relate back and take effect as of the date the Employee signed said written notice of change, whether or not the Employee is living at the time of such endorsement, but without prejudice to the Insurance Company on account of any payment made before receipt of such written notice.

If, at the death of any Employee insured hereunder, there shall be more than one designated Beneficiary, then, unless such Employee shall have specified the respective interests of such Beneficiaries, the interests of such Beneficiaries shall be several and equal. If any designated Beneficiary shall predecease the Employee, the rights and interest of such Beneficiary shall thereupon automatically terminate. If, at the death of the Employee, there be no designated Beneficiary as to all or any part of the insurance, then the amount of the insurance payable for which there is no designated Beneficiary shall be payable to the estate of the Employee, provided, however, that the Insurance Company may, in such case, at its option, pay such amount to any one of the following surviving relatives: wife, husband, mother, father,

child or children, and payment to any one or more of such surviving relatives shall completely discharge the Insurance Company's liability with respect to the amount of insurance so paid.

If an individual policy shall have been issued pursuant to application made in accordance with Section 9 hereof, the designation by the Employee of a Beneficiary under such individual policy, other than the Beneficiary of record of the Employee hereunder, shall, notwithstanding any other provision of this Section to the contrary, effect a change of Beneficiary hereunder to the Beneficiary of record under such individual policy, regardless of whether or not such change is endorsed on the Employee's certificate.

Section 14. ASSIGNMENT.—The Employee's certificate is non-assignable and the insurance and benefits are non-assignable prior to a loss.

Section 15. REGISTER.—The Insurance Company shall keep a Register which shall show at all times the names of all Employees insured hereunder and the amount of insurance in force on each of such Employees, together with the date when any insurance became effective and the effective date of any increase or decrease in amount of insurance. Copy of said Register as of the date of issue of this Policy and copies of entries in said Register subsequent to said date shall be furnished by the Insurance Company to the Employer.

Section 16. DUE DATE, COMPUTATION AND PAYMENT OF PREMIUMS.—The premiums due on and after the date of issue of this Policy for the insurance provided hereunder shall be determined and shall be payable in accordance with the following paragraphs.

The initial premium is due on the date of issue of this Policy, and subsequent premiums shall be due on the first day of each calendar month (herein called the due date) thereafter.

The Insurance Company shall compute an average monthly Life Insurance premium rate per \$1,000 of Life Insurance as of the date of issue of this Policy, using the Initial Schedule of Life Insurance Premiums set forth in Section 21 hereof, which rate shall be the Life Insurance premium rate until such time as such rate is recomputed in accordance with the seventh paragraph of this Section.

The initial Life Insurance premium due on the date of issue of this Policy and the Life Insurance premium due on any due date after the date of issue of this Policy shall be determined by applying the average monthly Life Insurance premium rate then in effect to each \$1,000 of Life Insurance then in force on all Employees irrespective of age (subject, however, to premium adjustments, if any).

Premium adjustments involving return of unearned premiums to the Employer shall be limited to the period of twelve months immediately preceding the date of receipt by the Insurance Company of evidence that such adjustments should be made.

On written request of the Employer, approved by the Insurance Company,

premium payments may, if not then so payable, be changed at any premium due date of this Policy, so as to be payable annually, semi-annually, quarterly, or monthly.

Upon any renewal of this Policy, or whenever the terms of this Policy are changed, either the Employer or the Insurance Company may require a recomputation, as of such date, of the average monthly Life Insurance premium rate per \$1,000 of Life Insurance, using for such recomputation such Schedule of Life Insurance Premiums as may then be determined by the Insurance Company and the amount of Life Insurance then in force at the respective attained ages of the insured Employees on such date.

All premiums falling due under this Policy, including adjustments thereof, if any, are payable by the Employer, on or before their respective due dates, direct to the Insurance Company, at its Home Office or one of its Head Offices. The payment of any premium shall not maintain the insurance under this Policy in force beyond the day immediately preceding the next due date, except as provided in the next paragraph.

A grace period of thirty-one days, without interest charge, shall be granted to the Employer for the payment of any premium due after the initial premium, provided the Employer has not previously given written notice to the Insurance Company that this Policy is to be discontinued as of the due date of such premium, and during any such grace period this Policy shall continue in force.

If the Employer fails to pay any premium within the grace period, this Policy shall be discontinued on the last day of such grace period, but the Employer shall, nevertheless, be liable to the Insurance Company for the payment of all premiums then due and unpaid, together with the premiums for the grace period. If, however, written notice is given by the Employer to the Insurance Company, during the grace period, that this Policy is to be discontinued before the expiration of the grace period, this Policy shall be discontinued as of the date of receipt of such written notice by the Insurance Company or the date specified by the Employer for such discontinuance, whichever date is later, and the Employer shall be liable to the Insurance Company for the payment of the pro-rata premium for the period commencing with the last due date and ending with such date of discontinuance.

Section 17. AGE.—In the event of the misstatement of the age of any Employee, there shall be an equitable adjustment of the premium. If the amount of insurance applicable to such Employee in accordance with Section 6 hereof would have been affected by such misstatement of age, the amount of insurance on such Employee shall be adjusted to the amount for which such Employee would have been entitled at his correct age, and the adjustment of the premium shall be based on such adjusted amount of insurance.

Section 18. PARTICIPATION IN DIVISIBLE SURPLUS.—This Policy is a participating contract and the Insurance Company shall annually ascertain and apportion any divisible surplus accruing under policies of this class. Any such divisible surplus apportioned to this Policy shall be paid in cash to the Employer or, upon written request from the Employer to the Insurance Com-

pany, shall be applied towards the payment of the aggregate of the premiums next falling due under this Policy. In either event, in the case of Contributory Insurance, an amount equal to the excess, if any, of the Employees' aggregate contributions toward the cost of the insurance provided hereunder over the net cost of such insurance shall be distributed or applied by the Employer for the sole benefit of the Employees.

Section 19. RENEWAL PRIVILEGE.—This Policy is issued for a period commencing with the date of issue and ending with the day immediately preceding January 1, 1951, on which date and on each anniversary of which date the Employer may renew this Policy for a further term of one year, provided the number of Employees then insured hereunder is, in the case of Contributory Insurance, not less than seventy-five per centum of the number of eligible Employees and, in the case of Non-Contributory Insurance, not less than the total number of eligible Employees, and provided in either case the number of Employees then insured hereunder is not less than fifty. Renewal is conditioned upon the payment of the premiums then due as computed in the manner set forth in Section 16 hereof and based upon such Schedule of Premiums as may then be determined by the Insurance Company.

Section 20. OPTIONAL MODES OF SETTLEMENT.—Upon written election by the Employee, or in the absence of such election by the Employee, then by the Beneficiary after the death of the Employee, in either case made to and accepted by the Insurance Company, the whole or any part of the amount of Life Insurance payable upon the death of any Employee insured hereunder will be retained by the Insurance Company and paid to the Beneficiary of record of the Employee in the following manner instead of in one sum:

By payment of monthly or annual instalments over such specified number of years (shown in the following table) as may be elected, the first instalment being payable immediately upon the death of the Employee. The amount of such instalments shall be determined by the Schedule of Instalment Payments per \$1,000 of Life Insurance in effect at the date of such election.

INITIAL SCHEDULE OF INSTALMENT PAYMENTS PER \$1,000 OF LIFE INSURANCE

Number of years specified	Amount of each annual instalment (per \$1,000 of insurance)	Amount of each monthly instalment (per \$1,000 of insurance)
1	\$1,000.00	\$84.19
2	505.61	42.56
3	340.84	28.69
4	258.39	21.75
5	208.97	17.59
10	110.37	9.29
15	77.58	6.53
20	61.30	5 16

The amounts payable under the foregoing Schedule are based upon an assumed interest earning of 2¼ per centum per annum.

Upon any renewal of this Policy, or whenever the terms of this Policy are changed, the Insurance Company may substitute for the foregoing Schedule, a Schedule of Instalment Payments per \$1,000 of Life Insurance based upon a different assumed interest earning, but such new Schedule shall not be applicable to elections made prior to the date of such substitution.

If the Insurance Company declares for any year, upon funds held by it for instalment payments elected under such options, a greater interest rate than that upon which instalment payments under any election were based, the excess amount of interest in accordance with such declaration shall be paid on the next anniversary of the commencement of instalment payments under such election.

If the Beneficiary dies before all instalments for the period selected have been paid, the unpaid instalments shall, unless otherwise specified in the election of such instalment payments, be commuted at the rate of compound interest upon which was based the Schedule of Instalment Payments per \$1,000 of Life Insurance used to determine such instalment payments, and such commuted sum shall be paid to the estate of such Beneficiary.

A mode of settlement other than one of those specified above may be arranged if the Employee, or in the absence of any election of a mode of settlement by the Employee, then the Beneficiary after the death of the Employee, and the Insurance Company mutually agree thereon. Information concerning such other possible modes of settlement will be furnished by the Insurance Company upon written request.

No instalment election shall be allowed under which the instalment payment is less than \$10.00.

Section 21. INITIAL SCHEDULE OF MONTHLY LIFE INSURANCE PREMIUMS per \$1,000 of Life Insurance.

Attained age nearest birthday	Premium	Attained age nearest birthday	Premium	Attained age nearest birthday	Premium
15	\$0.46	40	\$0.67	65	\$ 3.76
16	.47	41	.70	66	4.07
17	.48	42	.74	67	4.42
18	.48	43	.77	68	4.78
19	.49	44	.81	69	5.18
20	.50	45	.86	70	5.61
21	.51	46	.91	71	6.07
22	.52	47	.97	72	6.57
23	.53	48	1.03	73	7.11
24	.53	49	1.11	74	7.69
25	.54	50	1.18	75	8.31
26	.54	51	1.27	76	8.98
27	.55	52	1.36	77	9.70
28	.55	53	1.47	78	10.47
29	.55	54	1.58	79	11.30
30	.55	55	1.71	80	12.20
31	.55	56	1.84	81	13.14
32	.56	57	1.99	82	14.16
33	.56	58	2.15	83	15.24
34	.57	59	2.33	84	16.40
35	.58	60	2.52	85	17.64
36	.59	61	2.73	86	18.94
37	.61	62	2.96	87	20.32
38	.63	63	3.20	88	21.81
39	.65	64	3.47	89	23.37

(Copy of Employer's Application attached hereto)

APPENDIX D

GROUP INSURANCE—EMPLOYEE'S CERTIFICATE

BLANK LIFE INSURANCE COMPANY

(Herein called the insurance company)

SERIAL NO. 93

CERTIFIES

that, under and subject to the terms and conditions of Group Policy No. *Specimen*, JOHN DOE, an Employee of

A. B. C. COMPANY

(Herein called the employer)

is insured for Two Thousand Dollars on the effective date of this certificate, which amount is subject to change in accordance with the provisions of the Group Policy, as summarized in Section VI of this certificate.

If the Employee dies while in the employ of the Employer and while insured under the Group Policy, the amount of insurance in force on account of the Employee at the date of his death shall be paid to _____

MARY DOE, Beneficiary.

The insurance evidenced by this certificate, including the following pages, is provided under and is subject to all of the provisions of the Group Policy.

BLANK LIFE INSURANCE COMPANY,

Effective *January 1, 1950*

President.

NOTICES TO EMPLOYEE

This certificate is valuable to you and should be kept in a safe place known to you and to your Beneficiary.

If you should cease active work for any reason, you should find out immediately what arrangements, if any, can be made to continue your Insurance Benefits in force, so that you will be able to exercise any rights you may then have under the Group Policy, as outlined in this certificate. (See further details in Sections II and IV of this certificate.)

If you leave work because of total disability commencing before age 60, you should be sure to submit written proof to the Home Office or one of the Head Offices of the Insurance Company, as required, as soon as possible after you have been totally disabled for nine months, and in no event more than one year after the termination of your employment. (See further details in Section III of this certificate.)

SUMMARY OF PROVISIONS OF THE GROUP POLICY PRINCIPALLY AFFECTING THE EMPLOYEE

SECTION I. GENERAL PROVISIONS

1. No Agent has authority to accept or waive the required proof of a claim, nor to extend the time within which such proof must be given.
2. This certificate is non-assignable and the insurance and benefits are non-assignable prior to a loss. The insurance does not at any time provide paid-up insurance, or loan or cash values.

SECTION II. CESSATION OF INSURANCE

1. The Life Insurance shall automatically cease on the date of termination of the Employee's employment. Termination of employment for the purposes of Life Insurance means cessation of active work as an Employee as defined in the Group Policy, except that
 - (A) if the Employee is absent from active work because of sickness, injury or retirement his employment may, for the purposes of his Life Insurance, be deemed to continue until terminated by the Employer in accordance with the terms of the Group Policy, or
 - (B) if the Employee is absent from active work because of leave of absence or temporary lay-off, his employment may, for the purposes of his Life Insurance, be deemed to continue until terminated by the Employer in accordance with the terms of the Group Policy, but in no case beyond the expiration of such limited period as may be prescribed in the Group Policy.
2. The Life Insurance shall automatically cease upon the discontinuance of the Group Policy.
3. *If the Employee fails to make any contribution required by the Employer to the cost of his insurance under the Group Policy, such insurance shall automatically cease on the date of the expiration of the last period for which such contribution was made by the Employee.*

SECTION III. DEATH BENEFIT IN THE EVENT OF TOTAL DISABILITY

1. If the Employee, while insured under the Group Policy and prior to his sixtieth birthday, becomes totally disabled as a result of bodily injury or disease so as to be wholly prevented thereby from engaging in any and every business or occupation and from performing any work for compensation or profit, and continues to be so totally disabled uninterruptedly beyond the termination of his employment and until the date of his death, then upon receipt of satisfactory proof of such death (and provided no Death Benefit is payable under the provisions of subsection 2 of Section IV hereof), the Insurance Company shall pay to the Beneficiary of record the amount of the Employee's Life Insurance in force under the Group Policy at the date of the termination of his employment, provided

- (A) that initial satisfactory proof that such total disability exists and has continued uninterruptedly for at least nine months is submitted either before the termination of the Employee's employment (as defined in subsection 1 of Section II hereof) or within one year thereafter, and
- (B) that acknowledgment of the receipt of such initial satisfactory proof is endorsed on the Employee's certificate by the Insurance Company, and
- (C) that each year, within the three months preceding the anniversary of such endorsement, during the entire remainder of the Employee's lifetime, further satisfactory proof is submitted that such total disability continues, and
- (D) that upon the death of the Employee, satisfactory proof is submitted that such total disability continued to the date of his death.

If, however, the Employee's death occurs within one year after the termination of his employment and before any such proofs have been submitted, then satisfactory proof that the Employee was totally disabled uninterruptedly from the date of the termination of his employment to the date of his death must be submitted within one year after the date of his death.

- 2. All such proofs of total disability and of death must be submitted in writing to the Insurance Company at its Home Office or at one of its Head Offices on the initiative of the disabled Employee or by someone on his behalf without any obligation on the part of the Insurance Company to request any such proof.
- 3. Whenever proof of the Employee's total disability is submitted, the Insurance Company shall have the right and opportunity to have him examined by physicians designated by it.
- 4. If the Employee ceases to be so totally disabled or fails to submit any required proof within the time prescribed therefor, his rights under this Section shall automatically and immediately cease.
- 5. If an individual policy of Life Insurance has been issued in accordance with the provisions of the following Section, payment may be made under the provisions of this Section only if such individual policy is surrendered to the Insurance Company without claim thereunder. In such case, any premiums paid on such individual policy shall be refunded by the Insurance Company to the Beneficiary of record of the Employee.

SECTION IV. PRIVILEGE OF OBTAINING AN INDIVIDUAL POLICY OF LIFE INSURANCE

- 1. Upon written application made to the Insurance Company within thirty-one days after either.
 - (i) the date of the termination of the Employee's employment, or
 - (ii) the date of the discontinuance of the Group Policy, provided such

date is five years or more after the effective date of the Employee's insurance under such Policy, or

- (iii) the date of the cessation pursuant to subsection 4 of the preceding Section, of the Employee's rights under that Section,

the Employee shall be entitled to have issued to him by the Insurance Company, without evidence of insurability, an individual policy of Life Insurance only without Disability or Accidental Means death benefits, subject to the following conditions and provisions:

- (A) such individual policy shall be upon one of the forms then customarily issued by the Insurance Company, except Term Insurance, and
- (B) the premium for such individual policy shall be the premium applicable to the class of risk to which the Employee belongs and to the form and amount of the individual policy at the Employee's attained age (nearest birthday) at the date of issue of such individual policy, and
- (C) the amount of such individual policy shall be equal to (or at the option of the Employee less than) the amount of the Employee's Life Insurance or Death Benefit under the Group Policy, as the case may be, on whichever of the dates specified in paragraphs (i), (ii) and (iii) above is applicable, except that if the Employee's Life Insurance thereunder ceases because of the discontinuance of the Group Policy five years or more after the effective date of his insurance thereunder, the amount of such individual policy shall not exceed the lesser of
 - (a) the amount of the Employee's Life Insurance thereunder at the date of the cessation of such insurance, reduced by any amount of Life Insurance for which he may be or may become eligible under any Group Policy issued or reinstated by the Insurance Company or by any other insurer within thirty-one days after such cessation, and
 - (b) \$2,000.

2. Any individual policy of Life Insurance so issued shall become effective not earlier than the expiration of the thirty-one-day period during which application for such individual policy may be made. If, however, the Employee dies during such thirty-one-day period, the Insurance Company shall pay to his Beneficiary of record, whether or not the Employee shall have made application for such individual policy, the maximum amount of Life Insurance for which an individual policy could have been issued under this Section. If the Employee shall have been entitled to make such application pursuant to paragraph (iii) of subsection 1 of this Section and shall die within one year after the termination of his employment but before his certificate shall have been endorsed in accordance with the provisions of Section III hereof, then satisfactory proof of the Employee's death within such thirty-one-day period and that he was

totally disabled uninterruptedly from the date of the termination of his employment to within thirty-one days of the date of his death must be submitted to the Insurance Company within one year after the date of his death.

SECTION V. BENEFICIARIES

The Employee may change his Beneficiary at any time upon written request accompanied by this certificate for endorsement.

If, at the death of the Employee, there shall be more than one designated Beneficiary, then, unless the Employee shall have specified the respective interests of such Beneficiaries, the interests of such Beneficiaries shall be several and equal.

If any designated Beneficiary shall die before the Employee, the rights and interest of such Beneficiary shall thereupon automatically terminate. If, at the death of the Employee, there be no designated Beneficiary as to all or any part of the insurance, then the amount of insurance payable for which there is no designated Beneficiary shall be payable to the estate of the Employee, provided, however, that the Insurance Company may, in such case, at its option, pay such amount to any one of the following surviving relatives: wife, husband, mother, father, child or children, and payment to any one or more of such surviving relatives shall completely discharge the Insurance Company's liability with respect to the amount of insurance so paid.

The designation by the Employee of a Beneficiary under an individual policy of Life Insurance issued in accordance with the provisions of Section IV hereof, other than the Beneficiary of record of the Employee under the Group Policy, shall effect a change of Beneficiary under the Group Policy to the Beneficiary of record under such individual policy, regardless of whether or not such change is endorsed on this certificate.

REGISTER OF CHANGE OF BENEFICIARY

NOTE.—Entries in this register are to be made only by the Insurance Company. No other entries shall be recognized.

Date effective	Beneficiary	Endorsed by
-----	-----	-----
-----	-----	-----

SECTION VI. SCHEDULE OF INSURANCE

<u>Class</u>	<u>Amount of Insurance</u>
<i>Employees earning annually:</i>	
<i>Less than \$1,000.00 . . .</i>	<i>\$1,000 00</i>
<i>\$1,000.00 but less than \$2,000.00</i>	<i>1,500.00</i>
<i>\$2,000 00 but less than \$5,000.00</i>	<i>2,000.00</i>
<i>\$5,000.00 or more</i>	<i>2,500.00</i>

Any change in the amount of the Employee's insurance in accordance with the Schedule of Insurance in the Group Policy, as outlined above, shall become effective as provided in the Group Policy, but in no case shall any change become effective on a date on which the Employee is not actively at work.

APPENDIX E
ANNOUNCEMENT OF GROUP ANNUITY PLAN

JOHN DOE COMPANY
DETROIT, MICHIGAN

August 1, 1950

TO OUR EMPLOYEES:

For some time we have been studying plans which would enable you and the Company together to provide satisfactory retirement income benefits to be paid to you in addition to any old-age benefits payable under the Federal Social Security Act.

The basis of the Plan presented on the following pages is simple. You contribute toward a retirement annuity payable for life after retirement; the Company makes additional contributions to assure you a total annuity much greater than could be secured by your contributions alone. If you remain a contributor until retirement the total contributions made for you by the Company will exceed the total contributions you have made.

Your particular attention is called to the fact that under no possible circumstances can the return on your contributions be less than the total amount you have contributed. The average return to those who retire under the Plan will be several times the amount they have contributed.

To give you assurance of safety and security, the administration of the Plan is placed in the hands of the Blank Life Insurance Company, which will assume the liability for benefit payments and refunds thereunder.

Although membership is entirely voluntary, it is believed and hoped that everyone who is eligible will join. This is your Plan. It has been arranged for your benefit and protection—now and in the future. It is thoroughly sound and in our opinion offers each of you distinct advantages which you could not secure otherwise. We feel sure you will complete the application card you will receive and turn it in promptly.

Very truly yours,

President

The Plan in Brief

Effective August 1, 1950

The Plan is designed to provide retirement annuities to supplement the benefits of the Social Security Act and thus produce more adequate total retirement income for employees.

Employees will understand that this rough sketch of the Plan is not intended to be complete in detail. Its purpose is simply to point out the most essential features of the Plan for quick reference and an understanding of the basic principles involved. A more complete outline of the Plan is given on the following pages.

Employees under age 64 are eligible to join the Plan after one year of service. Retirement annuity payments begin normally on the first of the month nearest the employee's 65th birthday and are made monthly thereafter as long as the employee lives.

The annual amount of retirement annuity normally payable is the sum of

- (a) The future service annuity—approximately the following percentage of average annual earnings over the period of membership after August 1, 1947, multiplied by the number of years of such membership:

Annual Earnings	Percentage of Benefit
On that portion under \$600	0
On that portion between \$600 and \$3,000	1%
On that portion in excess of \$3,000	1½%
plus	

- (b) The past service annuity payable—1% of annual earnings on August 1, 1947 (omitting the first \$600), multiplied by the number of years of service prior to that date.

Employees contribute a percentage of their earnings each month toward their future service annuity—ranging from about 1½% of earnings up to about 4% of earnings in upper brackets— a reasonable share of the total net cost.

The Company contributes all additional amounts necessary to purchase the future service annuity—this totals over the years more than the employee's share of the cost in the average case—and purchases the entire past service annuity to which employees are entitled.

If the employee leaves the service, he is entitled to either (a) an annuity to begin at normal retirement age as purchased by his own contributions to date or (b) a refund of his own total contributions to date. If the employee is age 45 or over and has been a contributor for five years or more, the annuity at normal retirement age under (a) also includes the amount of future service annuity purchased by the Company for him to date.

If the employee dies, his beneficiary receives a refund of the employee's total contributions to date, less any annuity payments already made to the employee.

OUTLINE OF THE PLAN

1. *Effective Date*

The Plan will become effective as of August 1, 1951, provided at least 75% of the eligible employees make written application on the proper form.

2. *Eligibility*

All present employees who have completed one year or more of continuous service are eligible to join the Plan on the effective date, provided they have not then reached the 64th birthday.

Present employees not now eligible and employees entering the service in the future will become eligible to join the Plan on the first of the month on which these requirements are first met.

Membership in the Plan will become effective on the date on which the employee is first eligible, provided he has made application.

3. *Normal Retirement Date*

The normal retirement date under the Plan is the first of the month nearest the employee's 65th birthday.

The first payment of an employee's retirement annuity will be made on his retirement date, and subsequent payments will be made monthly thereafter as long as he lives.

With the consent of the Company, special arrangements may be made for (a) retirement on any date not more than ten years before the employee's normal retirement date or (b) commencement of annuity payments to be deferred to any date not more than five years after the employee's normal retirement date. In event of early retirement, payments will be on a reduced scale, based on age at actual retirement; in event commencement of payments is deferred, payments will be in the same monthly amount as would have been payable from normal retirement date. No contributions will be made after normal retirement date.

4. *Amount of Retirement Annuity*

The total retirement annuity payable to each employee will be the sum of (a) the future service annuity provided by his own and the Company's contributions and (b) the past service (supplementary) annuity to which he is entitled.

The future service annuity is described in Section 5 of this outline and the past service annuity in Section 6.

5. *Future Service Annuity*

The future service annuity payable from normal retirement date will be based on the table below. To determine the total future service annuity to which an employee is entitled by reason of membership in any class, multiply

the monthly rate of annuity shown in Column 3 for that class by the number of years as a contributor in that class.

For instance, if an employee contributes for 20 years in Class 1 and 10 years in Class 3, he will have a future service annuity of \$20.00 a month ($20 \times \1.00) plus \$15.00 a month ($10 \times \1.50), or a total of \$35.00 a month (\$420 a year), payable from normal retirement date as long as he lives—in addition to the past service annuity to which he is entitled.

Employee Contributions—Each participating employee will make monthly contributions in accordance with Column 4 of the table shown. These contributions will be deducted from his regular pay and transmitted to the insurance company, together with the Company's contributions.

(1)	(2)	(3)	(4)
Class	Annual rate of earnings	Monthly rate of future service annuity for each full year as contributor in class	Employee monthly contributions
1	Under \$1,950.00	\$ 1.00	\$ 3.00
2	\$1,950.00-2,249.99	1.25	3.75
3	2,250.00-2,549.99	1.50	4.50
4	2,550.00-2,849.99	1.75	5.25
5	2,850.00-3,199.99	2.00	6.00
6	3,200.00-3,599.99	2.50	7.50
7	3,600.00-3,999.99	3.00	9.00
etc. to	etc. by \$400 steps to	etc. by 50-cent steps to	etc. by \$1.50 steps to
26	\$11,200.00 and over	\$12.50	\$37.50

THE COMPANY PAYS THE BALANCE OF THE NET COST OF THESE BENEFITS

Classes—Each employee's contributions and his rate of future service annuity are based on his annual rate of earnings as determined by the Company, in accordance with the classes shown in the table above. If an employee's rate of earnings changes sufficiently to place him in another class, the change of class will become effective on the August first coincident with or next following the change in the rate of earnings.

6. Past Service (Supplementary) Annuity

It is recognized that our present older employees have not had the opportunity of building up annuity during their earlier years of service and will not

have sufficient time to accumulate an adequate amount of annuity through future participation in the Plan alone.

Accordingly, the Company plans to purchase, by additional payments over a period of years, an additional annuity for each present eligible employee who joins the Plan on August 1, 1951, and continues as a contributor while eligible until retirement under the Plan.

The annual rate of this additional annuity payable from normal retirement date will be equal to 1% of the employee's exact annual rate of earnings on August 1, 1950, as determined by the Company (omitting the first \$600 of annual earnings and omitting any earnings in excess of \$15,000 a year), multiplied by the number of full years of continuous service completed prior to August 1, 1950.

For instance, if an employee entered the service at age 25 and is now earning \$2,400 a year at age 55, he will have a past service annuity of 30 (years of service) times 1% of \$1,800 (\$2,400 minus \$600), or \$540 a year, payable from normal retirement date as long as he lives—in addition to his future service annuity.

THE COST OF THESE BENEFITS IS TO BE PAID WHOLLY BY THE COMPANY

7. *Contingent Annuitant Option*

An employee may elect to have his annuity payments commenced at his normal retirement date on an appropriately reduced scale, with the same or specified smaller payments continued in event of his death after normal retirement date to a person designated by the employee to receive such payments for life (the contingent annuitant). This option may be exercised without medical examination at any time before five years prior to normal retirement date; no medical examination will be required, however, of any employee, regardless of age, who exercises the option prior to November 1, 1950. Further information concerning this option and the effect of its election upon other provisions of the Plan will be available upon request.

8. *In Event of Termination of Employment*

An employee's contributions and the Company's contributions on his behalf cease upon termination of his employment, and:

- A. He may leave his own contributions with the insurance company and receive, commencing at his normal retirement date, that part of the *future service annuity* which has been purchased by his own contributions; or,
- B. He may have all of his own contributions returned to him without interest. (The insurance company will ordinarily make such refund in one lump sum but reserves the right to spread payment over a period of twelve months.)

Vested Right—If the employee has reached his 45th birthday and has also been a continuous contributor to the Plan for five years or more on termination of employment, he will be entitled to receive at normal retirement date the *future service annuity* which has been purchased by the Company's contributions as well as that purchased by his own contributions. This provision is operative only if the employee does not at any time elect to have his own contributions returned to him; it does not apply to any *past service annuity*.

9. *In Event of Death*

In event of death before annuity payments commence, the beneficiary named by the employee receives the amount of the employee's total contributions without interest.

In event of death after annuity payments commence, the beneficiary receives any excess in the amount of the employee's total contributions without interest over the amount of annuity received by the employee before his death.

These provisions are not in any way affected by termination of employment or by the operation of the vested right provision described in Section 8, provided the employee has not elected to have his own contributions returned to him.

10. *Temporary Absence Due to Sickness, Injury, or Leave of Absence*

If an employee is temporarily absent from active duty but receiving full remuneration from the Company, his contributions will be deducted in the usual way and retirement annuity credit will be allowed just as if he were at work.

No contributions will be required from an employee who is temporarily absent and receiving reduced remuneration or no remuneration from the Company, and no retirement annuity credit will be allowed for the period during which no contributions are made. This will not in any way affect retirement annuity credit previously accumulated. Contributions will commence again when full remuneration is resumed.

11. *Contract and Certificates*

This brief outline cannot contain the full details of the Plan as set forth in the master contract issued to the Company by the Blank Life Insurance Company. The Plan and all descriptions and outlines of the Plan are governed in every respect by the master contract.

Each contributing employee will receive a certificate issued by the insurance company outlining the benefits provided in the master contract.

1. *The Future of the Plan*

The Company hopes and expects to continue the Plan indefinitely but must necessarily reserve the right to change or discontinue it at any time.

The provisions of the master contract cannot be changed in any way without the Company's consent prior to at least August 1, 1955.

No change or discontinuance for any reason will adversely affect the terms governing the payment of any part of the retirement annuity actually purchased by the employee's contributions and the contributions made by the Company for him prior to the date of such change or discontinuance.

Examples of Amount of Retirement Annuity

1. Assume an employee now age 20 earning \$1,200 a year until retirement.
His retirement annuity under the Plan will be:

\$1.00 a month (Class 1) \times 45 years (to age 65).....	\$ 45.00 a month
	or
	\$540.00 a year

2. Assume an employee now age 30 earning \$1,500 a year. Assume same earnings for the next five years (to age 35), then \$2,000 a year for the next ten years (to age 45), then \$2,500 a year until retirement.

His retirement annuity under the Plan will be:

\$1.00 a month (Class 1) \times 5 years (to age 35)	\$ 5.00 a month
1 25 a month (Class 2) \times 10 years (to age 45)	12.50 a month
1.50 a month (Class 3) \times 20 years (to age 65)	30.00 a month
	<hr/>
	\$ 47.50 a month
	or
	\$570.00 a year

3. Assume an employee now age 50, with service since age 25, earning \$2,400 a year (\$200 a month). Assume same earnings for the next five years (to age 55), then \$3,000 a year until retirement.

His retirement annuity under the Plan will be:

1% of \$150 (\$200 minus \$50 a month) \times 25 years (past service annuity)	\$ 37.50 a month
\$1.50 a month (Class 3) \times 5 years (to age 55)	7.50 a month
2.00 a month (Class 5) \times 10 years (to age 65)	20.00 a month
	<hr/>
	\$ 65.00 a month
	or
	\$780.00 a year

The retirement annuities shown in these examples are of course in addition to, and independent of, any old-age benefits payable by the Government.

APPENDIX F

INDUSTRIAL LIFE POLICY

BLANK LIFE INSURANCE COMPANY

PROMISES TO PAY

upon receipt of due proof of the death of the Insured named in the Schedule on page ___, and upon surrender of this Policy, the Amount of Insurance stated in such Schedule to the Beneficiary, subject to the provisions of the paragraph entitled "Facility of Payment" and subject to the rights of the assignee of record, if any.

Facility of Payment—If the beneficiary does not surrender this Policy with due proof of death within 60 days after the death of the Insured, or if the Beneficiary is the estate of the Insured, or is a minor or incompetent, or dies before the Insured, the death benefit will, upon surrender of this Policy with due proof of death, be paid to the executor or administrator of the Insured, but in any such case the Company may, in lieu of payment to the executor or administrator, pay the death benefit to any person named as Beneficiary, or to any relative by blood or connection by marriage of the Insured appearing to the Company to be equitably entitled to such payment. The Company may, if the Insured is incompetent, make any other payment or grant any right or benefit provided in the Policy to any of the persons described in this paragraph.

Premiums—The consideration for this Policy is the payment of a first premium in the amount stated in the Schedule on page ___, and of a like weekly premium on each Monday succeeding the date of issue, until the anniversary of the date of issue of the Policy next after the Insured has attained the age of 64 years, or until the prior death of the Insured. If any premium is not paid when due, this Policy shall lapse, subject to the provisions for grace period and for Nonforfeiture Benefits.

Grace Period—A grace period of four weeks shall be granted for the payment of every premium after the first, during which period the Policy shall continue in full force. If the Insured dies during such period any overdue premium shall be deducted from the amount otherwise payable.

Reinstatement—If this Policy shall lapse, it may be reinstated within two years from the due date of the first premium in default, unless the Cash Surrender Value has been paid, upon production of evidence of insurability and good health satisfactory to the Company and the payment of all overdue premiums.

When Policy Is Incontestable and When Voidable—This Policy shall be incontestable after it has been in force during the lifetime of the Insured for a period of one year from its date of issue, except for nonpayment of premiums.

Subject to the foregoing provision, if within two years prior to the date of issue of this Policy, the Insured has received institutional, hospital, medical, or surgical treatment or attention, and the Insured or any claimant under the Policy fails to show that the condition occasioning such treatment or attention was not of a serious nature or was not material to the risk, this Policy shall be voidable by the Company either before or after any claim, unless reference to such institutional, hospital, medical, or surgical treatment or attention is endorsed on this Policy by the Company; provided, however, that this Policy shall not be voidable because of absence of endorsement referring to any information which was disclosed in a written application for this Policy.

If this Policy is voided by the Company, the Company will return the premiums paid.

Effective Date—This Policy shall take effect on the date of issue stated in the Schedule on page__.

Entire Contract—This Policy includes all matter printed or written by the Company on this and the following pages and constitutes the entire agreement. None of its terms can be waived by any agent nor be changed except by an endorsement on this Policy signed by the Secretary.

In Witness Whereof, the Blank Life Insurance Company has caused this Policy to be executed on the date of issue stated in the Schedule on page__.

Secretary.

President.

PROVISIONS AND BENEFITS

Option to Surrender Within Three Weeks—If this Policy is not satisfactory it may be surrendered for cancellation, within three weeks from its date of issue, at the District Office through which it was delivered, and the premium or premiums paid will be returned.

Benefit in Event of Loss of Eyesight or Limbs—*As Limited Herein*—Upon receipt of due proof that the Insured has suffered

- (a) the loss by severance of both hands at or above the wrist joints, or of both feet at or above the ankle joints, or of one hand and one foot at or above the wrist and ankle joints, or the irrecoverable loss of the entire sight of both eyes and has survived such loss of sight for 30 days, or
- (b) the loss by severance of one hand at or above the wrist joint, or of one foot at or above the ankle joint,

total and permanent disability will be deemed to exist, and the Company will pay to the Insured if living, and otherwise in the same manner as the death benefit, in case (a), an amount equal to the amount of insurance that would be

payable under the Schedule on page___ in the event of death on the date of such loss, or in case (b), one half of such amount. The aggregate amount of such payments shall never exceed the amount of insurance stated in the Schedule on page___. In either case (a) or case (b), after the receipt of such proof, the Policy will, upon endorsement by the Company, be continued for its full amount without payment of future premiums. In all cases this benefit shall be granted only if such loss occurs (1) while premiums are not in default beyond the grace period, and (2) solely as the result of disease contracted after or injury sustained after the date of issue. This benefit shall not be granted if any such loss is self-inflicted or if it occurs as a result of an act of war while the Insured is in the armed forces of any country at war. This benefit is granted without specific extra premium, the cost being included in the premium for this Policy.

Benefit in Event of Death by Accidental Means—As Limited Herein—Upon receipt of due proof that the death of the Insured resulted, directly and independently of all other causes, from bodily injuries caused solely by external, violent, and accidental means, the Company will pay, as an additional death benefit, an amount equal to the amount payable under the Schedule on page___. The additional benefit shall be payable only if (1) such injuries were sustained by the Insured after attaining age 10 and before attaining age 65, and (2) death occurs within 90 days from the date of such injuries and while premiums are not in default beyond the grace period. The additional benefit shall not be payable if the Insured's death (a) is caused or contributed to by disease or bodily or mental infirmity or medical or surgical treatment therefor or infection of any nature unless such infection is incurred through an external visible wound sustained through violent and accidental means, or (b) is the result of self-destruction, whether sane or insane, or (c) is the result of travel or flight in any species of aircraft if the Insured has any duties relating to such aircraft or flight, or is flying in the course of any aviation training or instruction, or any training or maneuvers in any armed forces, or (d) is the result of participating in or attempting to commit an assault, or (e) occurs as a result of an act of war. The additional benefit shall be reduced by any amount payable as **Benefit in Event of Loss of Eyesight or Limbs** as a result of the same injuries. This benefit is granted without specific extra premium, the cost being included in the premium for this Policy.

Misstatement of Age—If the age of the Insured has been misstated in the Schedule on page___, the amount payable and every benefit accruing under this Policy shall be such as the premium paid would have purchased at the correct age.

Participation—Dividends—This Policy is a participating contract except when continued as Paid-up Term Insurance.

The Company shall annually ascertain and apportion as a dividend any divisible surplus which will accrue on this Policy on January first of each year, at which time such dividend shall be applied to the purchase of a paid-up addition to the sum insured.

NOTE—There will probably be no divisible surplus accruing on this Policy for several years after the date of issue.

Refund on Direct Payment of Premiums—If, while premiums are not in default beyond the grace period, notice is given to any Office of the Company which maintains an account for receiving direct payment of premiums, that premiums will in future be paid directly to such an Office, and if premiums are so paid continuously for a period of one year without default beyond the grace period, the Company will, at the end of such year, refund 10 percent of the total of the year's premiums so paid; if there is default in such payment of premiums beyond the grace period, followed by reinstatement of the Policy without the services of an Agent, such refund will be made, but will be reduced for each such default by 10 percent of the premiums due on the date of the application for reinstatement.

A similar refund will be made annually upon continuous payment of premiums in the same manner.

Beneficiaries—The Insured may at any time, by written request, designate or change the beneficiary, subject to the rights of the assignee of record, if any. No designation of a beneficiary shall be binding upon the Company unless endorsed on this Policy by the Company. The Company may endorse such a designation after the death of the Insured, effective as of the date of execution of the designation. The Company may refuse to endorse the name of any proposed beneficiary who does not appear to the Company to have an insurable interest in the life of the Insured.

Assignability—This Policy may be assigned to any national bank, state bank, or trust company, but any assignment or pledge of this Policy or of any of its benefits to an assignee other than one of the foregoing shall be void. No assignment of this Policy shall be binding upon the Company unless and until it has been filed with the Company at its Home Office or one of its Head Offices. The Company assumes no obligation as to the validity or sufficiency of any assignment.

Option of Conversion to Insurance with Less Frequent Premium Payments—While premiums are not in default beyond the grace period, upon proper written request and upon presentation of evidence of insurability of the Insured satisfactory to the Company, the Insured may, with the consent of the assignee of record, if any, convert the insurance under this Policy and any other policies of weekly premium Industrial insurance issued by this Company on the life of the Insured to any form of Life insurance with less frequent premium payments regularly issued by the Company, in accordance with terms and conditions agreed upon with the Company. Provided, however, the privilege of making such conversions need be granted only if the Company's weekly premium Industrial policies on the life insured, in force as premium paying insurance and on which conversion is requested, grant benefits in the event of death, exclusive of additional benefits in the event of death by accident or accidental means and exclusive of any dividend additions, in an amount

not less than the minimum amount of such insurance with less frequent premium payments issued by the Company at the age of the Insured on the plan of Industrial or Ordinary insurance desired.

Conformity with State Statutes—Any provision of this Policy which is, on the date of issue, in conflict with the statutes of the State in which this Policy is issued or delivered is understood to be amended to conform to such statutes.

NONFORFEITURE BENEFITS

(Available on Surrender or Lapse)

Paid-up Term Insurance—After premiums have been paid for the respective periods specified in the table below, in event of default in the payment of any subsequent premium, this Policy will be automatically continued, commencing as of the due date of the first premium in default, as nonparticipating Paid-up Term Insurance (without the Benefit in Event of Loss of Eyesight or Limbs and the Benefit in Event of Death by Accidental Means) for the amount stated in the Schedule on page ___, plus the amount of any paid-up dividend additions, and for the term specified in the table below, but modified in accordance with the clause entitled Adjustments in Nonforfeiture Benefits if indebtedness to the Company or paid-up dividend additions exist.

TERM OF AUTOMATIC PAID-UP TERM INSURANCE FOR A POLICY WITHOUT INDEBTEDNESS AND WITHOUT PAID-UP DIVIDEND ADDITIONS, AFTER PREMIUMS HAVE BEEN PAID FOR:

Age Next Birth- day at Issue	26	1	2	3	4	5	6	7	8	9
	Weeks	Year	Years	Years	Years	Years	Years	Years	Years	Years
	Days	Days	Years Days	Years Days	Years Days	Years Days	Years Days	Years Days	Years Days	Years Days
20	60	175	1 136	3 355	7 26	10 0	12 218	14 294	16 229	18 44
21	60	177	1 145	4 27	7 66	10 22	12 211	14 255	16 159	17 314
22	60	181	1 158	4 74	7 110	10 45	12 202	14 212	16 88	17 218
23	60	185	1 175	4 127	7 153	10 64	12 188	14 165	16 13	17 121
24	60	192	1 195	4 183	7 196	10 77	12 167	14 112	15 297	17 23
25	60	199	1 217	4 240	7 235	10 83	12 140	14 54	15 213	16 288
26	60	207	1 240	4 293	7 265	10 82	12 105	13 354	15 126	16 186
27	60	216	1 264	4 342	7 288	10 71	12 61	13 281	15 37	16 83
28	60	236	1 320	5 20	7 30	10 50	12 9	13 204	14 309	15 344
29	60	255	2 6	5 54	7 305	10 22	11 314	13 123	14 213	15 236

Age Next Birth- day at Issue	10 Years		11 Years		12 Years		13 Years		14 Years		15 Years		16 Years		17 Years		18 Years		19 Years		20 Years	
	Years	Days	Years	Days	Years	Days	Years	Days	Years	Days	Years	Days	Years	Days	Years	Days	Years	Days	Years	Days	Years	Days
20	19	126	20	140	21	97	22	7	22	237	23	65	23	167	23	244	23	297	23	330	23	344
21	19	15	20	15	20	327	21	225	22	83	22	369	23	2	23	73	23	122	23	152	23	165
22	18	268	19	256	20	192	21	82	21	297	22	110	22	202	22	270	22	315	22	342	22	354
23	18	156	19	133	20	59	20	305	21	146	21	317	22	40	22	103	22	145	22	171	22	182
24	18	45	19	10	19	291	20	163	20	363	21	160	21	244	21	304	21	344	22	2	22	14
25	17	298	18	252	19	158	20	23	20	213	21	6	21	84	21	141	21	179	21	203	21	215
26	17	184	18	128	19	26	19	247	20	66	20	216	20	291	20	346	21	17	21	42	21	55
27	17	70	18	5	18	258	19	107	19	284	20	63	20	135	20	187	20	225	20	250	20	266
28	16	320	17	245	18	126	18	332	19	137	19	276	19	345	20	32	20	70	20	98	20	118
29	16	203	17	120	17	359	18	192	18	357	19	125	19	194	19	246	19	285	19	316	19	339

The term is the same for any amount of insurance.

Paid-up Whole Life Insurance—Within 13 weeks after default in premium payment, after premiums have been paid for the respective number of years specified in the table below, upon written application by the Insured or by the assignee of record, if any, and presentation of this Policy for endorsement, the Company will, in lieu of Paid-up Term Insurance, continue this Policy as

AMOUNT OF PAID-UP WHOLE LIFE INSURANCE (ON THE BASIS OF \$100 OF INSURANCE) FOR A POLICY WITHOUT INDEBTEDNESS AND WITHOUT PAID-UP DIVIDEND ADDITIONS, AFTER PREMIUMS HAVE BEEN PAID FOR:

Age Next Birth- day at Issue	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years	11 Years
20	\$4.34	\$ 7.76	\$11.12	\$14.12	\$17.68	\$20.90	\$24.07	\$27.19	\$30.27
21	4.50	7.95	11.35	14.70	18.01	21.27	24.49	27.65	30.77
22	4.67	8.17	11.62	15.02	18.38	21.68	24.94	28.15	31.30
23	4.87	8.42	11.92	15.37	18.77	22.13	25.43	28.67	31.86
24	5.08	8.69	12.24	15.75	19.20	22.60	25.94	29.22	32.45
25	5.32	8.98	12.59	16.15	19.65	23.09	26.47	29.80	33.07
26	5.57	9.29	12.96	16.57	20.12	23.60	27.03	30.40	33.70
27	5.83	9.61	13.34	17.00	20.60	24.13	27.60	31.01	34.35
28	6.10	9.94	13.72	17.44	21.09	24.67	28.19	31.64	35.02
29	6.37	10.28	14.12	17.89	21.59	25.23	28.79	32.28	35.70

Age Next Birth- day at Issue	12 Years	13 Years	14 Years	15 Years	16 Years	17 Years	18 Years	19 Years	20 Years
20	\$33.31	\$36.29	\$39.22	\$42.10	\$44.54	\$46.93	\$49.28	\$51.57	\$53.81
21	33.84	36.85	39.81	42.72	45.20	47.61	49.98	52.30	54.56
22	34.40	37.45	40.44	43.38	45.88	48.33	50.72	53.06	55.35
23	35.00	38.08	41.10	44.07	46.60	49.07	51.49	53.85	56.16
24	35.62	38.73	41.79	44.78	47.34	49.84	52.28	54.67	57.01
25	36.27	39.42	42.50	45.52	48.11	50.64	53.11	55.52	57.88
26	36.94	40.12	43.23	46.28	48.90	51.46	53.96	56.40	58.79
27	37.63	40.84	43.98	47.07	49.72	52.31	54.84	57.31	59.73
28	38.33	41.58	44.76	47.88	50.56	53.18	55.75	58.25	60.70
29	39.05	42.34	45.56	48.71	51.43	54.09	56.68	59.23	61.72

participating Paid-up Whole Life Insurance (without the Benefit in Event of Loss of Eyesight or Limbs and the Benefit in Event of Death by Accidental Means) for the reduced amount of insurance stated in the table below, but modified in accordance with the clause entitled Adjustments in Nonforfeiture Benefits if indebtedness to the Company or paid-up dividend additions exist. Such insurance shall be payable at the same time and under the same conditions as this Policy.

Cash Surrender Value—After this Policy has been in force for the respective number of years specified in the table below with all due premiums paid, upon written application and the surrender of this Policy, the Company will pay to the Insured or to the assignee of record, if any, the Cash Surrender Value stated in the table below, plus the reserve on any paid-up dividend additions and less any indebtedness to the Company, provided that if the Policy shall have lapsed, the application for such Cash Surrender Value must be made within 13 weeks after the due date of the first premium in default.

After premiums upon this Policy have been paid for at least three years, the insurance provided under the clause entitled Paid-up Term Insurance or the clause entitled Paid-up Whole Life Insurance may be surrendered at any time for the reserve on such insurance at the date of such surrender, or, if such surrender is made within 30 days after any anniversary date of the Policy, for the reserve on such Paid-up insurance as of such anniversary date, if greater.

The Company may defer the payment of any Cash Surrender Value for a period not to exceed six months after the request therefor is received by the Company. If the payment of the Cash Surrender Value is so deferred for a period of 30 days or more, interest at the rate of 2½ percent per annum shall be paid for the period of deferment.

CASH SURRENDER VALUES (ON THE BASIS OF \$100 OF INSURANCE) FOR A POLICY WITHOUT INDEBTEDNESS AND WITHOUT PAID-UP DIVIDEND ADDITIONS, AFTER THE POLICY HAS BEEN IN FORCE WITH ALL DUE PREMIUMS PAID FOR:

Age Next Birth- day at Issue	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years	11 Years
20	\$1.75	\$3.18	\$4.64	\$6.13	\$ 7.65	\$ 9.20	\$10.80	\$12.42	\$14.09
21	1.84	3.32	4.82	6.36	7.93	9.54	11.19	12.87	14.58
22	1.95	3.47	5.03	6.62	8.24	9.91	11.61	13.34	15.11
23	2.07	3.64	5.25	6.90	8.58	10.30	12.05	13.84	15.67
24	2.20	3.83	5.49	7.19	8.93	10.71	12.52	14.37	16.25
25	2.34	4.03	5.75	7.51	9.31	11.15	13.02	14.92	16.86
26	2.50	4.24	6.03	7.85	9.71	11.61	13.54	15.50	17.50
27	2.66	4.47	6.32	8.21	10.13	12.08	14.08	16.10	18.16
28	2.84	4.71	6.62	8.57	10.56	12.58	14.64	16.73	18.85
29	3.02	4.96	6.94	8.96	11.01	13.10	15.22	17.38	19.56

Age Next Birth- day at Issue	12 Years	13 Years	14 Years	15 Years	16 Years	17 Years	18 Years	19 Years	20 Years
20	\$15.79	\$17.52	\$19.28	\$21.08	\$22.72	\$24.37	\$26.06	\$27.76	\$29.49
21	16.33	18.12	19.94	21.79	23.47	25.18	26.91	28.66	30.43
22	16.91	18.75	20.62	22.53	24.26	26.02	27.79	29.59	31.41
23	17.53	19.42	21.34	23.30	25.08	26.89	28.72	30.56	32.43
24	18.17	20.12	22.10	24.11	25.94	27.80	29.67	31.57	33.48
25	18.84	20.84	22.88	24.94	26.83	28.74	30.67	32.61	34.57
26	19.53	21.60	23.69	25.81	27.75	29.71	31.69	33.69	35.70
27	20.26	22.38	24.53	26.71	28.71	30.72	32.75	34.80	36.86
28	21.01	23.19	25.40	27.61	29.69	31.76	33.85	35.95	38.06
29	21.78	24.03	26.30	28.61	30.72	32.84	34.98	37.14	39.31

Adjustments in Nonforfeiture Benefits—The benefits in the three tables above are based upon premium payments for the exact periods stated and apply to a policy without paid-up dividend additions and without indebtedness. The values used in determining the nonforfeiture benefits will be increased by the reserve on any paid-up dividend additions to the Policy and will be decreased by any indebtedness to the Company, including accrued interest, for which this Policy is security. If the period for which premiums have been paid ends between two successive periods stated in the tables or subsequent policy anniversaries, the benefits will be determined by simple interpolation between the benefits (adjusted for paid-up dividend additions and indebted-

ness) for such periods or anniversaries. Figures for years beyond those shown will be furnished on request. The two tables next above show the amounts on the basis of \$100 of insurance. If the insurance is other than \$100, the amounts will be proportionate; if the insurance is \$250, the amounts should be multiplied by 2.5, and so on.

Basis of Nonforfeiture Benefits—All nonforfeiture benefits, values and reserves referred to on this page are based on the 1941 Standard Industrial Mortality Table with interest at $2\frac{1}{2}$ percent per annum, the computations providing for immediate payment of death benefits and nonpayment of premiums beyond the end of the week in which death occurs. The values used in determining the benefits shown in the tables above are computed by the Standard Nonforfeiture Value Method producing values equal to the full net level premium reserve for the fifteenth and all subsequent policy anniversaries including those not shown. The term of Paid-up Term Insurance and the amount of Paid-up Whole Life Insurance on any policy anniversary are such as this value (adjusted for paid-up dividend additions and indebtedness) will provide when applied as a net single premium at the then attained age (next birthday) of the Insured. A detailed statement of the method of computation of the nonforfeiture benefits has been filed with the insurance supervisory official of the State in which this Policy is delivered. Such benefits are in all cases equal to or greater than those required by the law of such State. The provisions entitled Benefit in Event of Loss of Eyesight or Limbs and Benefit in Event of Death by Accidental Means do not affect the values used in determining the nonforfeiture benefits.

SCHEDULE

Whole Life

Paid up on Anniversary of Policy after Age 64

Ages 20 to 29

Number of policy	Date of issue	Name of the insured	Age next birthday at issue (years)	Amount of insurance	Weekly premium
<i>Specimen</i>	<i>Jan. 3, 1949</i>	<i>John Doe</i>	<i>20</i>	<i>\$500.</i>	<i>\$.25</i>

Name and Relationship of the Beneficiary. The right is reserved to the Insured to designate or change the beneficiary, subject to the provision entitled Beneficiaries on page ____.)

MARY DOE, WIFE

SPACE FOR ENDORSEMENTS

APPENDIX G

APPLICATION FOR INSURANCE

PART I

APPLICATION TO THE BLANK LIFE INSURANCE COMPANY

I, _____, hereby apply for an insurance
Print full name

policy on my life for \$_____ on the _____ plan, with:

Additional Indemnity ☐

Disability Premium Waiver ☐

Place "X" after benefits elected.

Premiums of \$_____ are to be payable _____ annually in advance.
Insert "semi" or "quarter"—if necessary.

I was born at _____ on the _____ of _____, 1____. My age at
State day month year

nearest birthday is _____ years.

My residence address is: _____
Street and No. Town or City (incl. Mail Zone)

_____ I have resided here since _____
County State month year

My principal occupation is: _____
Title of position, and duties

Nature of employer's business Name and address of employer
I have been so employed since _____
month year

My other occupations are: _____
State nature of such employment,

names of employers and their addresses.

My business address is: _____
Street and No. Town or City (incl. Mail Zone)
_____ I have worked here since _____
County State month year

Premium and other notices required by law are to be sent to: Residence ☐
Business ☐ *(Indicate which)*

NOTE TO AGENT: If at present residence or business address or in present occupation less than one year, see Agent's Certificate.

The beneficiary for death benefit to be _____

Print full name of beneficiary,

_____ *relationship to applicant, and address if other than that of applicant*

with the right to change the beneficiary, the right to assign the policy, and the other "Policy Rights" reserved to me.

NOTE: Unless an Optional Mode of Settlement is elected, settlement will be made in a single sum. If Endowment is applied for, net sum due at maturity as an Endowment will be payable to the Insured unless otherwise requested. DIVIDEND ELECTION: Any dividends on the policy herein applied for are to be

- ☐ paid in cash.
- ☐ applied toward the payment of any premium due on the policy if the remainder of such premium is duly paid.
- ☐ applied to the purchase of paid-up additional insurance. NOTE: This additional insurance option may not be elected if a Term policy is applied for.
- ☐ left to accumulate at interest.

This dividend election is to remain in force until changed by written notice duly filed at the Company's Home Office.

It is hereby agreed that any policy issued hereon shall not take effect until the first premium thereunder has been paid during my good health; that no agent or other person except the President, a Vice-President, the Secretary, the Treasurer, a Registrar or an Assistant Registrar of the Company has power to make or modify any contract on behalf of the Company or to waive any of the Company's rights or requirements, and that no waiver shall be valid unless in writing and signed by one of the foregoing officers. All of the foregoing statements and all those contained in Part II hereof are true, full and complete, and are offered to the Company as an inducement to issue the policy or policies for which application is hereby made.

The first _____ annual Premium of \$ _____ has been paid to _____ on the policy applied for above, in accordance with the provisions of the receipt of date and number corresponding to this application, which is hereby accepted subject to the conditions thereof.

_____ *Enter Here Any Special Instructions-*

Dated at _____ 19__

Reserved for Use by Home Office

Signature of Applicant.

Soliciting Agent only should sign here.
 (If two or more persons actually engaged
 in soliciting this application, each should
 sign his full name and designate his
 proportionate interest hereon if shares are
 not equal. A firm name must not be
 signed on this line.)

____ No.

Agency or Agencies

IF APPLICANT IS A WOMAN, FILL OUT AND ATTACH FORM ____ WHEN REQUIRED,
 OR ____ IF NON-MEDICAL.

RECEIVED of _____ No. ____

____ Dollars,

the first _____ annual premium on proposed insurance for \$____
 _____ on the life of _____ for which Part I of an
 application bearing a corresponding number as above is this day made to
 THE BLANK LIFE INSURANCE COMPANY. Insurance, subject to the terms and
 conditions of the policy contract, shall take effect as of the date of this receipt,
 provided satisfactory Part II of the application is furnished to the Company
 and provided the person whose life is proposed for insurance is on this date,
 in the opinion of the Company's authorized officers in New York, an insurable
 risk under its rules and the application is otherwise acceptable on the plan and
 for the amount and at the rate of premium applied for; otherwise the payment
 evidenced by this receipt shall be returned on demand and upon the surrender
 of this receipt.

Dated at _____, _____ 19____, _____, Agent.

This receipt must not be detached unless application is signed and first premium
 is collected.

AGENT'S CERTIFICATE

Concerning the Person Whose Life Is Proposed for Insurance

1. (a) If not at present residence address one year, list previous addresses
 for past year:
- (b) If not in present occupation or present business address one year,
 list previous occupations and addresses for past year:

2. If he is an employee, give name and title of his immediate superior or foreman_____

If he is employed in a large plant, give his Series No._____and Time Check No._____

3. If he is a student, or under 21 and not self-supporting for past year, give father's or guardian's name, address and occupation._____

4. Give names, addresses and occupations of three responsible and easily identified business men who have known him for several years. This is advisable in every case, and absolutely necessary if he lives in a rural district.

5. If he lives or is employed outside of a town or city, give:

Nearest Trading Point_____

Distance to Trading Point_____

Direction from Trading Point_____

Highway or Road_____

Name or Number.

6. If he is a farmer, state whether Owner, Renter or Employee_____. If he is an employee, give name of employer; if he is a farmer's son employed by father, so state._____

7. (a) Worth?_____ (b) Annual income?_____ Source of information_____ In all cases of \$25,000 or more of total insurance, furnish details of finance on Form _____.

Bank Reference_____

8. How long and how intimately have you known him?_____

Relationship, if any_____

9. (a) Is any other application for new insurance now pending or contemplated?_____ If so, give details_____

(b) Does he intend to replace insurance in this or other companies, or to replace National Service Life Insurance, by insurance hereby applied for?

_____ If so, give details_____

(c) Give amounts of insurance (including the company in each case) now existing on his life _____

10. Has he been postponed or declined for life insurance during the past year?
 _____ If so, give causes, dates, companies _____

11. Was this application suggested to you by a broker or agent of this or another life insurance company other than as indicated on the face of this application? _____ If so, give details, including name of such outside agent and what commission interest, if any, he has in the business.

12. If he has made or contemplates making any aircraft flights in any capacity other than as a passenger, AVIATION QUESTIONNAIRE must be completed. Are you forwarding the questionnaire with this application? _____

13. Do you unreservedly recommend him as a first class risk for life insurance?
 _____ for disability insurance? _____

I hereby certify that I personally solicited and secured this application, and I know of nothing against the risk which is not fully set forth in these papers.

SOLICITING AGENT'S SIGNATURE

(If more than one Agent is interested, the signature of each is required as indicating endorsement of above statement.)

NOTE.—Failure to fill out and sign the foregoing Agent's Certificate properly will delay action at the Home Office until the opinion of the Agent regarding the desirability of the risk shall have been received.

PART II—STATEMENTS TO MEDICAL EXAMINER BY PERSON
 WHOSE LIFE IS PROPOSED FOR INSURANCE

(Statements on this page should be complete and not refer to any other part of the document)

1. A. Date of Birth? B. Race? C. Sex?
 D. Married, Single or Widowed? (If the last, give date and cause of death of wife or husband.)

2. A. How much life insurance is in force on your life in this Company?
 - B. How much in other companies?
(Give names of companies and amount in each, including any amount for which premiums paid by others.)
 - C. Is insurance applied for to replace insurance in another company or to replace National Service Life Insurance? (Give details, including company name.)
 - D. Has your application for life insurance ever been declined, postponed, or limited to a policy different from the one applied for? (State company and details.)
 - E. Have you within 6 months been examined for or applied for life insurance? (If so, state companies and result in each.)
 - F. Have you ever made claim for sickness, accident or pension benefits? (Give dates, causes and companies.)
 - G. Have you been rejected, deferred or released from service in the Armed Forces because of your physical or mental condition? (If so, give dates and reasons.)
-
3. A. How long have you lived at your present address? (City or Town.)
 - B. Are you contemplating any hazardous undertaking or any trip or residence outside of this country? (State why, when and each country.)
 - C. Have you ever traveled or lived in tropical countries? (If so, where and when.)
 - D. Have you ever been obliged to leave your work or change your occupation or dwelling, or to travel, on account of your health? (Details and dates.)
 - E. Have you ever been in any hospital, asylum or sanatorium for observation, treatment or an operation? (State when, where, and for what reason.)
 - F. Have you made, or do you contemplate making any aircraft flights in any capacity other than as a passenger?
-
4. A. What is your occupation? (Position and kind of business.)_____
 - B. How long have you been so engaged?_____
 - C. Do you contemplate any change, temporary or permanent, in occupation? (Details.)
 - D. State occupations and home addresses during last five years differing from the present

Previous occupations and business addresses	From year	To year	Previous home addresses (city, street and no.)	From year	To year

5. Family record	Age if living	State of health <i>If poor, explain</i>	Age at death	Cause of death	How long ill	Year of death	Remarks re family record
Father....							
Mother....							
Brothers .							
Sisters .							

6. Have you ever had or been treated for any disease or disturbance of: (answer each separately.)	Yes or No	Name of disease or disturbance	No. of at- tacks	Date Mo. Yr.	Dura- tion	Result
A. The Brain or Nervous System						
B. The Nose, Tonsils, Throat, Lungs or Pleura						
C. The Heart or Blood Vessels						
D. The Stomach, Liver, Intestines, Kidney or Bladder						
E. The Genito-Urinary Organs or Rectum						
F. The Skin, Bones, Glands, Eye or Ear						
7. A. Have you ever had arthritis, rheumatic fever, gout, tubercu- losis, epilepsy, diabetes or syphilis?						
B. Have you ever had fainting or dizzy spells?						
C. Have you ever raised or spat blood?						
D. Have you ever been advised to have a surgical operation?						
E. Have you ever had a surgical operation?						
F. Have you ever had any other illness or injury not mentioned above?						

	Yes or No	
8. A. Have you ever had an electrocardiogram, X-ray or fluoroscopic examination made?		If "Yes," state why, when, and by whom, in each instance.
B. Have you ever had your blood examined?		
	A.	
	B.	

9. State below every physician, practitioner or specialist whom you have consulted or who has treated you during the past five years. (*If none, so state.*)

Name and address	Reason for consultation or treatment	Date, duration and result

I have read the foregoing answers and agree that such answers shall be part of the application, which shall consist of both Part I and Part II, and that such answers shall also become part of any policy contract that may be issued on the strength thereof.

Dated at _____ County of _____ State of _____
on the _____ day of _____ 19____

Witness:

M.D.

Signature of person whose life is proposed for insurance.
(To be written in presence of Medical Examiner.)

**MEDICAL EXAMINER'S REPORT
CONCERNING PERSON WHOSE LIFE IS PROPOSED FOR
INSURANCE.**

<p>10. A. How well do you know him? B. Is he related to you by blood or marriage? <i>(If so, in what degree?)</i> C. Any lameness or deformity or hernia? <i>(Describe under 16.)</i> D. Any recent gain in weight? } <i>State amount</i> E. Any recent loss of weight? } <i>and cause.</i></p>	<p>A. B. C. D. E.</p>
<p>11. A. Exact height (in shoes) _____ B. Did you measure him? _____ C. Exact weight (coat and vest off) _____ D. Did you weigh him? _____ E. Girth of chest, full expiration? _____ F. Girth of chest, full inspiration? _____ G. Girth of abdomen at umbilicus? _____</p>	<p>_____ ft. _____ in. _____ _____ lbs. _____ _____ in. _____ in. _____ in.</p>
<p>12. A. State rate of pulse _____ B. Is it intermittent or irregu- lar? _____ If so, describe _____</p>	<p>C. State blood pressure Systolic _____ _____ (by auscultation) Diastolic _____ _____ 4th phase 5th phase</p>

Do you find upon examination
any abnormality of the:

- D. Arteries or Veins { *Atheroma or*
 undue thickening
- E. Heart { *Abnormal action, murmurs,*
 hypertrophy, degeneration
- F. Respiratory System { *Lung, Nose,*
 Throat
- G. Nervous System { *Brain, Spinal*
 Cord, Nerves
- H. Abdomen { *Stomach, Intestines,*
 Liver, Spleen, etc.
- I. Middle Ear, Eye, Skin, Genito-
Urinary System, or other part of
body

Describe fully any abnormality.

- D. _____
 E. _____
 F. _____
 G. _____
 H. _____
 I. _____

13. A. What is specific gravity of urine? (<i>Make sure that specimen is authentic.</i>)	A.
B. Is albumin present?	B.
C. Is sugar present?	C.
D. Have you knowledge that the urine examined was authentic?	D.

If urine is abnormal or any Genito-Urinary disturbance, past or present, or if amount makes total over \$50,000 insurance, forward a specimen of urine to Home Office.

E. Have you forwarded a specimen as directed above?	E.
14. FEMALES:	
A. Is she now pregnant? (<i>Month advanced?</i>) (<i>If so, forward specimen to Home Office.</i>)	A.
B. Number of children born, if any?	B.
C. Were pregnancies and labors normal? (<i>If not, describe under 16.</i>)	C.
D. Date of last confinement?	D.
E. Any miscarriage? (<i>Cause and date.</i>)	E.
F. Any menstrual disorder or symptoms of disease of breast, uterus or ovaries?	F.
G. Have you forwarded a specimen as directed above?	G.
15. A. Does he look older than the stated age? (<i>If so, how many years and why?</i>)	A.
B. Is the general appearance unfavorable? (<i>Describe under 16.</i>)	B.
C. Was anyone else present during the recording of his statements and the examination? (<i>If so, who?</i>)	C.
D. Do you know or suspect that he has used or now uses alcohol to excess or any narcotic?	D.
E. Do you know of anything in connection with the moral character, physical condition, or past history not already detailed which would affect his insurability? (<i>If so, give details under 16.</i>)	E.

16. REMARKS: (Enter the record of any illness or medical consultation on the front page. Further comments on the history may be entered here.)

Before mailing, review entire report to make certain that every question is completely answered.

IMPORTANT: This examination is the property of the Company, and, if completed on the original date, must be mailed immediately to the Agency Cashier by the examiner, and not given to any other person. If it is impossible to complete it on that date, it may be retained while obtaining further information, *but under no circumstances* for more than one week. Additional information obtained on your own initiative after forwarding the blank should be sent direct to the Medical Director.

I certify that I have made the above examination at _____ M. D.

(Street and No.) (City or Town) (State)

on this _____ day of _____, 19____ at _____ A.M.
P.M. P. O. Address _____

Name of agent _____
County State

APPENDIX H

APPLICATION FOR INSURANCE

Nonmedical

PART I

APPLICATION TO THE BLANK LIFE INSURANCE COMPANY

1. I, _____, hereby apply for an insurance policy
Print full name

on my life for \$_____ on the _____ plan, with:

Additional Indemnity ☐

Disability Premium Waiver ☐

Place "X" after benefits elected.

Premiums of \$_____ are to be payable _____ annually in advance.
Insert "semi" or "quarter"—if necessary.

2. (a) Place of birth _____
State

(b) Date of birth _____ of _____, 1 _____
day month year

(c) Age at nearest birthday _____
years

3. Race _____ Male ☐ Married ☐ Single ☐
Female ☐ Widowed ☐ Divorced ☐

4. Principal occupation:

Title of position

Nature of business

Name of Employer

Number of years engaged in this occupation _____

5. Other occupation (*If none, so state.*) _____

6. Business Address: _____

Street and Number

City or Town (incl. Mail Zone) County State

How long at this address? _____

7. Residence Address: _____

Street and Number

City or Town (incl. Mail Zone) County State

How long at this address? _____

8. Premium and other notices required by law are to be sent to:

Residence ☐ Business ☐ (indicate which)

9. Have you ever traveled or lived in tropical countries? (If so, where and when.) _____

10. Are you contemplating any hazardous undertaking or any trip outside of this country? (If "Yes," give details.) _____

11. Have you made or do you contemplate making any aircraft flights in any capacity other than as a passenger? _____ (If "Yes," complete *Aviation Questionnaire*.)

12. How much life insurance is in force on your life, exclusive of Group?

Company	Approximate year issued	Amount of Life Insurance	Amount of Accidental Death Benefit
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

13. Has your application for life insurance ever been declined, postponed, or modified in any way? (State company and details.) _____

14. Have you within 6 months been examined for or applied for life insurance? (If so, state companies and result in each.) _____

15. If new insurance is applied for, is it to replace insurance in any other company or to replace National Service Life Insurance? (If "Yes," give details, including company name.) _____

16. The beneficiary for death benefit to be _____
Print full name of beneficiary,

relationship to applicant, and address if other than that of applicant.

with the right to change the beneficiary, the right to assign the policy, and the other "Policy Rights" reserved to me.

NOTE: Unless an Optional Mode of Settlement is elected, settlement will be made in a single sum. If Endowment is applied for, net sum due at maturity as an Endowment will be payable to the Insured unless otherwise requested.

17. DIVIDEND ELECTION: Any dividends on the policy herein applied for are to be

- ☐ paid in cash.
- ☐ applied toward the payment of any premium due on the policy if the remainder of such premium is duly paid.
- ☐ applied to the purchase of paid-up additional insurance. NOTE: This additional insurance option may not be elected if a Term policy is applied for.
- ☐ left to accumulate at interest. This dividend election is to remain in force until changed by written notice duly filed at the Company's Home Office.

It is hereby agreed that any policy issued hereon shall not take effect until the first premium thereunder has been paid during my good health; that no agent or other person except the President, a Vice-President, the Secretary, the Treasurer, a Registrar or an Assistant Registrar of the Company has power to make or modify any contract on behalf of the Company or to waive any of the Company's rights or requirements, and that no waiver shall be valid unless in writing and signed by one of the foregoing officers. All of the foregoing statements and all those contained in Part II hereof are true, full and complete, and are offered to the Company as an inducement to issue the policy or policies for which application is hereby made.

LIFE INSURANCE

The first _____ annual premium of \$ _____ has been paid :
 _____ on the policy applied for above, in accordance with the provisions of the receipt of date and number corresponding to this application, which is hereby accepted subject to the conditions thereof.

Enter Here Any Special Instructions

Dated at _____ 19 _____

Signature of applicant.

[Reserved for Use by Home Office]

*Soliciting Agent only should sign here
 (If two or more persons actually engaged
 in soliciting this application, each should
 sign his full name and designate his pro-
 portionate interest hereon if shares are
 not equal. A firm name must not be
 signed on this line.) •*

 No.

Agency or Agencies

RECEIVED of _____ No. _____

_____ Dollars,
 the first _____ annual premium on proposed insurance for \$ _____
 _____ on the life of _____ for which an appli-
 cation bearing a corresponding number as above is this day made to THE
 BLANK LIFE INSURANCE COMPANY. Insurance, subject to the terms and condi-
 tions of the policy contract, shall take effect as of the date of this receipt,
 provided the person whose life is proposed for insurance is on this date, in
 the opinion of the Company's authorized officers in New York, an insurable
 risk under its rules and the application is otherwise acceptable on the plan
 and for the amount and at the rate of premium applied for; otherwise the
 payment evidenced by this receipt shall be returned on demand and upon the
 surrender of this receipt.

Dated at _____, _____ 19 _____

Agent.

This receipt must not be detached unless application is signed and first
 premium is collected.

INFORMATION TO BE FURNISHED IF APPLICANT IS A FEMALE WHO HAS BEEN MARRIED

<p>a. What is applicant's full maiden name? _____</p> <hr/> <p>b. What is husband's: (a) Full name? _____ (b) Date of birth? _____ (c) Occupation? _____ (d) Business address? _____</p> <hr/>	<p>c. Is his life insured? _____ If so, what companies and how much? _____</p> <hr/> <p>d. If applicant was previously married, former husband's name? _____</p> <hr/>
--	--

PART II

DECLARATION MADE IN LIEU OF MEDICAL EXAMINATION

1. Are you now in good health? (*Answer "Yes" or "No"*) _____ If "No," explain. _____
-
- 2 a. What is your height in shoes? ____ ft. ____ in. If female, height without shoes ____ ft. ____ in.
 b. What is your exact weight in ordinary clothes? _____ lbs.
-
3. Have you during the past two years
- | | |
|--|---|
| <p>a. Gained weight?</p> <p>b. Lost weight?</p> <p>c. How much?</p> <p>d. Cause?</p> | <p>a. _____</p> <p>b. _____</p> <p>c. _____</p> <p>d. _____</p> |
|--|---|

4. Family record	Age, if living	State of health If poor, explain	Age at death	Cause of death	How long ill	Year of death
Father						
Mother						
Brothers . . .						
Sisters						

	Yes or No
j. Duodenal or gastric ulcer; gall-bladder colic or stones; kidney colic, stones or gravel; or piles?	_____
k. Albumin, sugar, pus or blood in the urine?	_____
l. Anemia, cancer, goitre, diabetes, gout or syphilis?	_____
m. Physical deformity or hernia? (If so, do you wear a brace or truss?)	_____
n. Any other illness or injury not mentioned above?	_____

FEMALES: (a) Any menstrual disorder or symptom of disease of breast or other female organ? _____

(b) Are you now pregnant? _____ If so, how far advanced?
 _____ (c) Number of children borne? _____ (d) Any
 serious trouble in labor? _____ (e) Date of last
 confinement? _____

If any question under 6 (a) to 8 (e) inclusive is answered "Yes," give details, including dates and duration:

	Yes or No	If "Yes," state why, when, and by whom, in each instance.
9. a. Have you ever had an electrocardiogram, X-ray or fluoroscopic examination or basal metabolism test made?	_____	a.
b. Have you ever had your blood exam- ined?	_____	b.

I have read the foregoing answers and agree that such answers shall be part of the application, which shall consist of both Part I and Part II and that such answers shall also become part of any policy contract that may be issued on the strength thereof.

Dated at _____ County of _____ State of _____
 on the _____ day of _____ 19. ____

Signature of person whose life is
proposed for insurance.

Witness:

Agent (to be written in presence of Agent)

AGENT'S REPORT CONCERNING THE PERSON WHOSE LIFE IS
PROPOSED FOR INSURANCE.ALL ANSWERS MUST BE FILLED IN before papers are submitted to the
Agency Cashier.

1. (a) Is he FULLY and REGULARLY employed in the occupation stated
in Part I of this application?_____

(b) Please describe exact duties according to Page 3 of the Occupational
Ratings leaflet._____

2. If he is an employee, give name and title of his immediate superior or
foreman._____

If he is employed in a large plant, give his Series No._____

and Time Check No._____

3. (In rural cases only) Present address is _____

miles in a _____ direction from _____

and is on _____

(Road name or number)

4. Does he intend changing occupation?_____ If "Yes," give details
regarding new employment, title of position, nature of business, address
of new employer._____

5. Give occupations and business addresses during the last five years differing
from the present, including dates. (If none, so state.)_____

6. Give residence addresses during the last five years differing from the
present, including dates. (If none, so state.)_____

-
7. Give names, addresses and occupations of three responsible and easily identified business men who have known him for several years.
-
8. (a) Monthly income? \$_____ (b) Worth? \$_____
-
9. (a) Do you personally know him?_____ Well ☐ Casually ☐
(b) How long have you known him?_____
(c) If related, state relationship_____
-
10. Are his AGE, HEIGHT and WEIGHT correct as stated?_____
-
11. (a) Is he in good health?_____
(b) Other than stated in Part II, is there any
Deformity?_____ Abnormality?_____
Impaired vision?_____ Impaired hearing?_____
(c) Any history of past illness or accident?_____
(If "Yes" to any of above, give details.)_____
-
12. Is there or has there ever been any criticism of his drinking habits? (If
"Yes," give details.)_____
-
13. Has he ever been legally charged with a violation of law? (If so, give
details.)_____
-
14. Do you unreservedly recommend him as a first-class risk?_____
-
15. Did you personally witness his signature to Part I and Part II of this
form?_____
-
16. (a) Was this business suggested by the representative of any other
company?_____ If "Yes," who and what company?

-
- (b) Will such representative be allowed any compensation on the com-
pleted case?_____
-

17. The Agent is to add here additional pertinent information which would be of assistance in properly judging the risk.
-

I have carefully reviewed the above questions and have answered them to the best of knowledge. I have also reviewed Application Parts I and II and all questions have been answered by the person whose life is proposed for insurance.

Soliciting Agent

The following statement should be completed by the Agency Manager. I hereby certify that the above agent is under contract to solicit insurance for the Company, that he is personally known to me to be responsible and qualified and has been authorized by the Home Office to take applications on the Non-Medical Form.

Agency Manager

APPENDIX I

INSPECTION REPORT

PERSONAL AND CONFIDENTIAL

The purpose of this report is to assist in considering an application for Life Insurance from the person named. Please complete Report and mail by

Agcy. _____ No. _____ Ap. Forwd. _____ Non-Med. _____ Beneficiary _____

Age _____

Name (If female indicate "Miss" or "Mrs.") _____

So Employed _____

Title of Position—(Time Ck. No., Dept. and Superior when required) _____

Since _____

Month Year Present Residence Address (Distance and Direction when _____

Lived Here Since _____

Rural) _____

Month Year Firm or Employer—and Kind of _____

Business _____

Present Business Address _____

Worked Here Since _____ Amount Applied for \$ _____ Previous _____

Month Year _____

This Co. \$ _____ Previous Other Co's. \$ _____

Previous addresses and other identification which may be of assistance to inspector: _____

1. A. Does the occupation given clearly and tully indicate employment and kind of business done? (If not, or if engaged in any other occupation or in a job of another name, please describe below.) _____

B. Describe duties of Applicant's job or position. _____

2. A. Liberal estimate of worth? (Always insert figures.) \$ _____

B. Liberal estimate of monthly income? (1) Include salary, commissions _____

or any income from personal services. \$ _____

(2) From other sources? (Give source as well as amount.) \$ _____

- c. Anything unfavorable in payment of bills or financial reputation?
(If "Yes" give full details below.) _____
- d. Basis for figures given. (Own estimate, Employer, Banker or Lawyer,
Business Associates, etc.—Give details below.) _____
-

See Note below

3. A. Is (s)he now or has (s)he ever been an excessive daily drinker? _____
- B. Does (s)he or did (s)he ever drink to intoxication? (If "Yes" to A or B,
please answer questions and describe fully below.) _____
-
4. A. Older than age stated? (If "Yes" give full details below as to how old
and basis for your assumption.) _____
- B. Anything unfavorable in appearance? (If "Yes" please give full details
below.) _____
- C. Any serious defect, infirmity or abnormality such as defective sight,
hearing—lameness, under or overweight? (If "Yes" please give full
details below.) _____
- D. Any present or past illness, accident or injury or use of harmful drugs?
(If any, please give details and names of attending physicians.) _____
- E. Race or Nationality? _____
-
5. A. Anything unfavorable regarding general reputation? (If "Yes" please
give full details below.) _____
- B. Ever known to have had any domestic trouble? (If "Yes" please give
full details below) _____
- C. Anything unfavorable in family history, environment, associates, morals,
etc? (If "Yes" please give full details below.) _____
- D. Anything hazardous in recreation, or hobbies, such as racing, polo,
unusual foreign travel, reckless driving—(if so, ever arrested), etc.?
(If "Yes" please give full details and whether any accidents.) _____
- E. Made or likely to make aircraft flights other than as a passenger? (If
"Yes" give full details stating whether as pilot, student pilot, or what;
frequency; how long ago, etc.) _____
-
6. A. How long have you known him (her)? _____
- B. How long have your informants known him (her)? (Please comment
below regarding informants and their qualifications.) _____
-

Important—Please comment below in separate paragraphs in the order
named regarding (A) OCCUPATION, present and previous for at least one year;

(B) FINANCES, including Basis for figures given and also describe scale of living; (C) HABITS; (D) HEALTH, REPUTATION, ENVIRONMENT, ACTIVITIES; (E) INFORMANTS, mentioning their connections with applicant and how well each knows him. *Always include complete details of anything adverse.*

If Questions 3A or 3B Answered "Yes" Please Complete Questions Below

NOTE: It is necessary to know *how much* a person drinks (or drank), for *how many years*, with what *frequency*, last *previous* occasion and, if no longer indulging, *how long ago* discontinued. If drinking has increased or decreased give full particulars. Please answer each question to the best of your ability after confirming unfavorable information through independent sources.

X. Daily excess

1. Present daily consumption?_____
 2. Past daily consumption?_____
 3. Drink beer, wine or hard liquor? (state which)_____
 4. If no longer drinking to excess, when did (s)he reform?_____
-

Y. Intoxication

1. When last intoxicated?_____
 2. Once a week, once a month, twice a month, or how often?_____
 3. For a few hours, one night, entire day, or how long? (*If for a day or longer describe in your remarks whether out of control for entire period or just slightly exhilarated during this period.*)_____
 4. Degree { A. Boisterous, slightly unsteady?_____
 - B. Stupefied, out of control?_____
 5. Number of years drinking to intoxication?_____
 6. Drinking to same degree during this period?_____
 7. Is there a tendency to increase drinking?_____
-

8. Is there a tendency to decrease drinking?_____

9. Ever taken a "cure"? If so, when?_____

10. Any subsequent lapse?_____

Dated at. _

19

(Sign here)_

APPENDIX J

SPECIMEN REINSURANCE AGREEMENT

FACULTATIVE REINSURANCE AGREEMENT

TERM BASIS

THIS AGREEMENT, made this day of 195 ,
between the LIFE INSURANCE COMPANY, a corporation
organized under the laws of the State of (hereinafter referred
to as the "Ceding Company"), and the REASSURANCE
COMPANY, a corporation organized under the laws of the State of
(hereinafter referred to as the "Reassurance Company"), WITNESSETH
AS FOLLOWS:

ARTICLE I Application for reinsurance on any life risk submitted to the Ceding Company under direct application, not known to have been obtained through agents of other companies or to be one of several applications to different companies for a large aggregate amount of insurance, may be submitted to the Reassurance Company on the Preliminary Application form attached hereto (Exhibit A). Copies of all papers and all of the Ceding Company's information as to insurability of the risk shall accompany the application.

Application may include total and permanent disability benefits—waiver of premium only—for an amount corresponding to the original amount of life reinsurance applied for, provided the papers do not show a total of more than One Hundred Thousand Dollars (\$100,000) of life insurance with waiver of premium benefits carried by the Insured in the Ceding Company and other insurance companies.

Application may also include additional accidental death benefits provided the papers do not show that the original policies of the Ceding Company and other policies carried by the Insured grant more than Twenty-five Thousand Dollars (\$25,000) of this particular benefit.

ARTICLE II Acceptance of reinsurance upon any risk submitted by the Ceding Company to the Reassurance Company shall be optional with the Reassurance Company. The Reassurance Company shall promptly notify the Ceding Company of its decision thereon and if the Reassurance Company accepts the risk the Reassurance Company's liability shall commence simultaneously with that of the Ceding Company.

ARTICLE III In all reinsurances the liability of the Reassurance Company shall cease when the liability of the Ceding Company ceases.

ARTICLE IV When the Ceding Company's policy, on which reinsurance has been accepted by the Reassurance Company, has been paid for, the Ceding Company shall send to the Reassurance Company a reinsurance cession in duplicate in substantial agreement with the form attached hereto and marked "Exhibit B," the original of which shall be returned by the Reassurance Company duly signed.

ARTICLE V The Ceding Company shall forward to the Reassurance Company a copy of the form of contract issued to the Insured, unless such copy shall have been previously filed with the Reassurance Company.

ARTICLE VI Reinsurance of life risks under this agreement shall be upon the yearly renewable term plan for the amount at risk under the policy reinsured. For the purpose of this agreement, the amount at risk is defined as the difference, taken to the nearest dollar, between the face amount of the sum reinsured and the terminal reserve corresponding to that face amount on the basis of the original policy.

The rate of premium to be charged by the Reassurance Company for life reinsurance of risks accepted at standard and substandard rates of premium shall be in accordance with the schedules of rates attached hereto, provided that in cases where the classification of the original policy shows a flat extra premium instead of a specified Table, then the rate of premium for life reinsurance shall be the standard rate set forth in the said schedules plus the flat extra rate charged under the original policy for the face amount reinsured. However, on all such extra premiums for reinsurance, except temporary extra premiums and extra premiums imposed for aviation activities, the Reassurance Company shall allow commissions of per cent the first year
per cent in the case of an endowment policy providing for a reduced extra and per cent for each renewal year.

On temporary extra premiums the Reassurance Company shall allow commissions of per cent for each renewal year. On extra premiums imposed for aviation activities, the Reassurance Company shall allow commissions in accordance with its published schedule of aviation ratings.

The premium to be charged by the Reassurance Company for the reinsurance of disability benefits shall be for the first policy year per cent and for renewal policy years per cent of the disability premium charged by the Ceding Company for the amount reinsured. Where disability benefits are issued to substandard lives or lives substandard for such benefits the normal rates of premium shall be increased to correspond with the rating of the substandard classification.

The premium to be charged by the Reassurance Company for the reinsurance of additional accidental death benefits on risks rated as standard for such benefits shall be at the rate of per thousand for the first policy year and per thousand for each renewal policy year during the continuance of this coverage. Where double indemnity benefits are issued

to lives substandard for these benefits, the normal rates of premium shall be increased to correspond with the rating of the substandard classification.

Except in those instances where the Reassurance Company is taxed directly and independently on premiums collected by it from the Ceding Company, the Reassurance Company shall reimburse the Ceding Company for the tax paid on reinsurance premiums to such states as do not allow reinsurance premiums paid the Reassurance Company by the Ceding Company as a deduction in the tax statement of the Ceding Company.

ARTICLE VII The Ceding Company agrees to pay premiums to the Reassurance Company as provided for in this agreement. Premiums for all reinsurances shall be payable on an annual premium basis. The Reassurance Company shall reimburse the Ceding Company for all reinsurance premiums paid by it beyond the date of cancellation or lapse of its respective policies. Within fourteen (14) days after the close of each calendar month the Reassurance Company shall send to the Ceding Company a list showing premiums for all outstanding new reinsurances upon which cessions have been received by the Reassurance Company, and renewal premiums for all renewal reinsurances falling due within such month. Within fourteen (14) days after the receipt thereof, the Ceding Company shall verify and return such list to the Reassurance Company with a remittance covering first year premiums for all new reinsurances, premiums upon which shall have been paid to the Ceding Company, and renewal premiums on all renewal reinsurances falling due within the month, together with any adjustments made necessary by changes in reinsurances during such month.

Notwithstanding the non-payment of a reinsurance premium due the Reassurance Company in the current account, if such non-payment is unintentional and the result of a misunderstanding or oversight on the part of either company, the reinsurance shall nevertheless be held as in force so as to give the relief from excessive risk which this agreement is intended to secure and the Reassurance Company shall be bound by any death on which the Ceding Company is bound, notwithstanding that the reinsurance premium may not have actually been paid to the Reassurance Company at the time of such death. Any unpaid premium in such event shall be paid immediately upon discovery with compound interest thereon at five per cent (5%) per annum from the due date of said premium.

ARTICLE VIII If any portion of the insurance carried by the Ceding Company on a life reinsured hereunder shall be terminated, the amount of reinsurance carried by the Ceding Company on that life shall be reduced by a like amount as of the date and time of the termination of the original insurance; if the amount of insurance terminated exceeds the total amount of reinsurance carried by the Ceding Company on the life, all such reinsurance shall be terminated.

The reduction shall be applied first to the reinsurance directly applicable to the Ceding Company policy which is reduced or cancelled, the reinsurance

of the Reassurance Company being reduced by an amount which shall be the same proportion of the amount of insurance terminated that the Reassurance Company's reinsurance bore to the total amount of reinsurance under that particular policy.

If any portion of the terminated insurance was retained by the Ceding Company, a reduction equal to the amount of such retention shall be made in the reinsurance in force under all other policies on the life carrying the same mortality rating and involving the same supplemental benefits, if any, each reinsurer sharing in the reduction according to its proportion of the comparable reinsurance on the life not directly applicable to the policy of the Ceding Company which was terminated. In interpreting this paragraph, policies issued concurrently, upon the same plan and at the same mortality rating, shall be considered as one policy and when the terminated policies contain Disability, Double Indemnity, or other supplementary benefits, the reductions shall be confined to the reinsurance policies containing the same benefits, the principle to be observed being always that the retention of the Ceding Company is to be maintained unchanged.

It is agreed, however, that in no case shall the Ceding Company be required to assume a risk for an amount in excess of its regular retention limit for the age at issue and mortality rating of the policy under which reinsurance is being terminated. If the cancellation of reinsurance in accordance with the above rules would have this result, the amount of reinsurance to be cancelled shall be such that the Ceding Company shall be placed upon the risk for its regular limit of retention.

The Reassurance Company shall refund to the Ceding Company all unearned premiums which arise either because of reductions in reinsurance brought about as provided in the previous paragraphs or because the Ceding Company shall have paid a premium to the Reassurance Company after its own policy shall have been discontinued or to a date later than that to which premiums were paid by the Insured.

Should any reinsurance be reduced or cancelled by the Ceding Company through error, the Reassurance Company will revive its reinsurance, provided the Ceding Company notifies the Reassurance Company of the error within two years from the date of the reduction or cancellation but not otherwise. Past due reinsurance premiums in such event shall be paid immediately upon discovery with compound interest at five per cent (5%) per annum.

ARTICLE IX Should lapsed or surrendered insurance be reinstated, the reinsurance shall be reinstated automatically. The Ceding Company shall furnish the Reassurance Company with copies of all papers in connection with the reinstatement. The Reassurance Company shall be entitled to arrears of reinsurance premiums and to a proportionate share in the interest which the Ceding Company may receive on arrears unless otherwise agreed upon at the time the reinstatement is made.

ARTICLE X In the case of a claim under a policy reinsured, whether the claim is under the strict policy conditions or under a compromise or otherwise, the settlement made by the Ceding Company shall be unconditionally binding on the Reassurance Company, but if the whole risk in any particular case is carried by the Reassurance Company, or if, in a claim involving additional accidental death benefits, the amount of such benefits reinsured by the Reassurance Company exceeds the amount of such benefits retained by the Ceding Company, the Reassurance Company shall be consulted before the admission or acknowledgment of the claim is made by the Ceding Company.

The Ceding Company shall furnish the Reassurance Company with copies of the proofs of claim, together with any other information the Ceding Company may possess in connection with the claim. Payment in settlement of the reinsurance under a claim approved and paid by the Ceding Company for a life reinsured hereunder shall be made by the Reassurance Company upon receipt of the claim papers.

The Reassurance Company shall share in the expense of any contest of a claim in proportion to the net sum at risk of the Reassurance Company and the Ceding Company and shall share in the total amount of any saving in the same proportion. Compensation of salaried officers and employees of the Ceding Company shall not be deemed claim expense.

If a claim is approved under waiver of premium benefit on a policy reinsured on the yearly renewable term plan, the Ceding Company shall continue to pay the premium for the life reinsurance and the Reassurance Company shall pay its pro rata portion of the premium waived on the original policy.

ARTICLE XI The reinsurances granted by the Reassurance Company hereunder shall be maintained in force by the Ceding Company so long as the insurances issued by the Ceding Company upon the same risk shall remain in force. However, should the Ceding Company increase its stated retention limits on standard lives, the Ceding Company may, provided its retention limits are increased by the same percentage at all ages (adjusted to the nearest \$500), reduce all policies of standard life reinsurance hereunder (with corresponding disability, if any) which have been in force five years or longer to such amount in each case as will increase the amount of life insurance to be carried by the Ceding Company at its own risk to its then maximum limit. The Ceding Company shall give the Reassurance Company written notice of the adoption of its new limits. If any life is reinsured in two or more companies, reinsurances issued hereunder shall in such case be reduced only in the proportion that the total reduction required bears to the total reinsurance on the life. Reductions under this Article shall take effect upon the renewal date of the respective reinsurances next after the date of said notice provided the reinsurance has been in force five years or longer; otherwise the reduction shall take effect on the fifth anniversary date of the reinsurance.

Standard reinsurance as referred to in this Article is defined as reinsurance issued to the Ceding Company covering life risks upon which it has issued

insurance at standard rates and upon which it retains for its own account its maximum retention for the age, sex and plan of the risk.

ARTICLE XII Should any material change be made in the provisions and conditions of a policy issued by the Ceding Company to an Insured, and upon which reinsurance shall have been granted hereunder, the Ceding Company shall immediately inform the Reassurance Company of such change.

ARTICLE XIII Should a policy reinsured in the Reassurance Company lapse and extended term insurance be granted in accordance with the provisions of the policy and the rules of the Ceding Company, the certificate of reinsurance shall be exchanged for a new certificate for the Reassurance Company's proportionate share in the risk.

ARTICLE XIV The Reassurance Company shall have the right at all reasonable times and for any reasonable purpose to inspect at the office of the Ceding Company all books and documents referring to reinsurance issued by the Reassurance Company.

ARTICLE XV In the event of any difference hereafter arising between the contracting parties with reference to any transaction under this agreement, the same shall be referred to three arbitrators who must be executive officers of life insurance companies, each of the contracting companies to appoint one of the arbitrators and such two arbitrators to select the third. Should the two arbitrators not be able to agree on the choice of the third then the appointment shall be left to the President of the American Life Convention.

ARTICLE XVI The reinsurance shall be payable, in the event of insolvency of the Ceding Company, to its liquidator or receiver on the basis of the claim or claims allowed against the insolvent Ceding Company by any court of competent jurisdiction or any justice, or judge thereof, or by any receiver or liquidator having authority to determine and allow such claims. The liquidator or receiver shall give written notice of the pendency of a claim against the insolvent Ceding Company on the policy reinsured within a reasonable time after such claim is filed in the insolvency proceeding, and during the pendency of such claim the Reassurance Company may investigate such claim and interpose, at its own expense, in the proceeding where such claim is to be adjudicated any defense or defenses which it may deem available to the Ceding Company or its liquidator or receiver. The expense thus incurred by the Reassurance Company shall be chargeable against the insolvent Ceding Company as a part of the expense of liquidation to the extent of a proportionate share of the benefit which may accrue to the Ceding Company solely as a result of the defense undertaken by the Reassurance Company. When one or more other reinsurers are involved with the Reassurance Company and a majority in interest elect to interpose defense to such claim, the expense shall be apportioned in accordance with the terms of the reinsurance agreement(s) as though such expense had been incurred by the Ceding Company.

ARTICLE XVII This agreement shall be unlimited in duration, but it may be cancelled at any time insofar as it pertains to the ceding of new business, by either party's giving ninety (90) days' notice of cancellation in writing.

The Reassurance Company shall continue to accept reinsurance during this ninety (90) day period, and it shall remain liable on all reinsurances ceded in accordance with this agreement until the termination of the reinsured policies.

In witness whereof, etc.

APPENDIX K CONVENTION BLANK—ACCOUNTS

I.—CAPITAL STOCK		Dollars	Cents				
1. Amount of capital paid up December 31 of current year \$ _____							
2. Amount of ledger assets (as per balance) December 31 of previous year \$ _____							
3. _____crease of paid up capital during the year	Extended at						
II.—INCOME							
	(1)	(2)	(3)	(4)	(5)	(6)	
	Total Gross Premiums		Deduct Reinsurance		Gross Premiums less Reinsurance		
	First Year	Re-newal	First Year	Re-newal	First Year	Re-newal	
4. Life							
5. Disability benefits							
6. Additional accidental death benefits							
7. Annuities							
7A. $\frac{1}{2}$ Dividends applied per items 9(a), (b) and (c) page 3							
8. * Totals							
8A. Accident and health cash premiums including \$ _____ policy, membership and other fees \$ _____							
9. ** Consideration for supplementary contracts involving life contingencies						Dollars	Cents
10. ** Consideration for supplementary contracts not involving life contingencies including \$ _____ disability							
11. Dividends left with the company to accumulate at interest							

II.—INCOME (Continued)		Dollars	Cents	Dollars	Cents
12.	Ledger assets, other than premiums, received from other companies for assuming their risks.				
13.	Gross interest on mortgage loans, less \$_____ accrued interest on mortgages acquired during the year				
14.	Gross interest on collateral loans, per Schedule C				
15.	Gross interest on bonds \$_____, less \$_____ accrued interest on bonds acquired during the year, per Schedule D.				
15A.	Gross dividends on stocks \$_____, less \$_____ accrued dividends on stocks acquired during the year, per Schedule D				
16.	Gross interest on premium notes, policy loans and hens				
17.	Gross interest on deposits in trust companies and banks, per Schedule E.				
18.	Gross interest on other debts due the company (give items and amounts):				
	(a) _____				
	(b) _____				
19.	Gross discount on claims paid in advance				
20.	Gross income from company's property, including \$_____ for company's occupancy of its own buildings, less \$_____ interest on incumbrances, per Schedule A.				
21.	Total interest, dividends and real estate income				
22.	From other sources (give items and amounts):				
	(a) _____				
	(b) _____				
	(c) _____				
23.	† Borrowed money, gross \$_____ , less amount repaid \$_____				
24.	From agents' balances previously charged off.				
25.	_____				
26.	_____				
27.	Gross profit on sale or maturity of ledger assets, viz.:				
	(a) Real estate, per Schedule A				
	(b) Bonds, per Schedule D.				
	(c) Stocks, per Schedule D				
	(d) _____				
28.	Gross increase, by adjustment, in book value of ledger assets, viz.:				
	(a) Real estate, per Schedule A				
	(b) Bonds, per Schedule D (including \$_____ for accrual of discount)				

Dollars Cents

(c) Stocks, per Schedule D

(d) _____

29. **Total Income**.....

30. Amount carried forward

* To be supported by distribution of premiums by States as per Schedule T.

** Commuted value of instalments or benefits adjusted but not due. See Nos. 1-5 of Disbursements.

† Company is at liberty to state transaction briefly so that explanation can be carried as footnote in department report.

† Indicate distribution of item 7A, columns (5) and (6)

No. of Line	Column (5)	Column (6)
4	\$ _____	\$ _____
5	_____	_____
6	_____	_____
7	_____	_____
Total	_____	_____

Amount brought forward

Dollars Cents

III.—DISBURSEMENTS

(1)

(2)

Dollars Cents

	Gross Amount *	Deduct Re-insurance *
1. Death claims		
2. Matured endowments		
3. Permanent and total disability:		
(a) Payments made		
(b) Premiums waived		
4. Additional accidental death benefits		
4A. Accident and health benefits		
5. Totals		
6. For annuities involving life contingencies, excluding payments on supplementary contracts (including cash refund payments)		
7. Premium notes and liens voided by lapse, less \$_____ restorations		
8. Surrender values		

* Including commuted value of supplementary contracts.

III.—DISBURSEMENTS (Continued)		Dollars	Cents	Dollars	Cents
9. Dividends to policyholders:					
(a) Applied to pay renewal premiums . . . \$ _____					
(b) Applied to shorten the endowment or premium paying period . . . _____					
(c) Applied to purchase paid up additions and annuities . . . _____ \$ _____					
(d) Paid in cash or applied in liquidation of loans or notes . . . _____					
(e) Left with the company to accumulate at interest . . . _____					
(f) Accident and health . . . _____					
10. Total paid policyholders					
11. Paid for claims on supplementary contracts:					
(a) Involving life contingencies					
(b) Not involving life contingencies					
12. Dividends held on deposit disbursed:					
(a) Dividends \$ _____ and interest thereon \$ _____ held on deposit surrendered during the year					
(b) Dividends \$ _____ and interest thereon \$ _____ held on deposit applied during the year to shorten the endowment or premium paying period					
13. Expense of investigation and settlement of policy claims (other than accident and health claims), including \$ _____ for legal expenses					
13A. Expense of investigation and settlement of accident and health claims, including \$ _____ for legal expenses					
14. Commissions to agents (less commissions on reinsurance): Accident and health \$ _____ Policy, membership and other fees retained by agents \$ _____ First year's premiums \$ _____; renewal premiums \$ _____ Annuities (original) \$ _____; annuities (renewal) \$ _____					
15. Commuted renewal commissions					
16. Compensation of managers and agents not paid by commission for services in obtaining new insurance					
17. Agency supervision and traveling expenses of supervisors (except compensation for home office supervision)					
18. Branch office expenses including agency expense reimbursement:					
(a) Rent					
(b) Salaries of branch office employees not included in item 16					
(c) Salaries \$ _____ and expenses \$ _____ for agency supervision					
(d) Other branch office expenses					
19. Medical examiners' fees \$ _____, Inspection of risks \$ _____					
20. Salaries and all other compensation of officers, directors, trustees and home office employees					

III.—DISBURSEMENTS (Continued)		Dollars	Cents	Dollars	Cents
21.	Payments to inactive employees, exclusive of \$ _____ reported in Item 6.....				
22.	Home office travel				
23.	Rent, including \$ _____ for company's occupancy of its own buildings, less \$ _____ received under sublease				
24.	Miscellaneous expenses:				
	(a) Bureau and association dues and assessments.....				
	(b) Legal expenses not included in Items 13 or 13A... ..				
	(c) Furniture and equipment, including \$ _____ depreciation on expenditures capitalized				
	(d) Printing and stationery				
	(e) Books, newspapers and periodicals				
	(f) Postage, express, telegraph, telephone and exchange.....				
	(g) Advertising				
	(h) Insurance except on real estate.....				
	(i) General office maintenance and expense.....				
	(j) Investment expense not included elsewhere				
	(k)				
	(l)				
	(m)				
	(n)				
25.	Taxes, licenses and fees:				
	(a) State taxes on premiums.				
	(b) Insurance department.				
	(c) Other state taxes, including \$ _____ social security				
	(d) Federal, including \$ _____ social security.				
	(e) All other (except on real estate)				
26.	Real estate:				
	(a) Repairs and expenses.				
	(b) Taxes				
27.	Paid stockholders for dividends (cash \$ _____, stock \$ _____)				
28.	Borrowed money repaid, gross \$ _____, less amount borrowed \$ _____				
29.	Interest on borrowed money				
30.	Agents' balances charged off.				
31.				
32.				
33.	Gross loss on sale or maturity of ledger assets, viz.:				
	(a) Real estate, per Schedule A				
	(b) Bonds, per Schedule D				
	(c) Stocks, per Schedule D				
	(d)				
34.	Gross decrease, by adjustment, in book value of ledger assets, viz.:				
	(a) Real estate, per Schedule A				
	(b) Bonds, per Schedule D (including \$ _____ for amortization of premiums)				
	(c) Stocks, per Schedule D.				
	(d)				
35.	Total Disbursements.				
36.	Balance.				

IV.—LEDGER ASSETS		Dollars	Cents	Dollars	Cents
1.	Book value of real estate (less \$_____incumbrances), per Schedule A, including \$_____owned under contract of sale				
2.	Mortgage loans on real estate, per Schedule B, first liens (including \$_____foreclosed liens subject to redemption) . . . \$_____ other than first liens				
3.	Loans secured by pledge of bonds, stocks or other collateral, per Schedule C				
4.	Loans made to policyholders on this company's policies assigned as collateral				
5.	Premium notes on policies in force, of which \$_____ is for first year's premiums				
6.	Book value of bonds, \$_____ ; and stocks, \$_____ ; per Schedule D				
7.	Cash in company's office \$_____				
8.	Deposits in trust companies and banks <i>not</i> on interest, per Schedule E.				
9.	Deposits in trust companies and banks on interest, per Schedule E.				
10.	Bills receivable, \$_____ ; agents' balances (debit, \$_____, credit, \$_____), net, \$_____				
11.					
12.	Total Ledger Assets, as per balance on page 3.				
Non-Ledger Assets					
13.	Gross interest due, \$_____ and accrued, \$_____ on mortgages.				
14.	Gross interest due, \$_____ and accrued, \$_____ on collateral loans, per Schedule C, Part 1				
15.	Gross interest due, \$_____ and accrued, \$_____ on premium notes, policy loans or liens				
16.	Gross interest due, \$_____ and accrued, \$_____ on bonds not in default, per Schedule D, Part 1				
17.	Gross interest due, \$_____ and accrued, \$_____ on deposits in trust companies and banks . . .				
18.	Gross interest due, \$_____ and accrued, \$_____ on other assets (give items and amounts):				
19.					
20.	Gross rents and interest due, \$_____ and accrued, \$_____ on company's property or lease.				
21.	Total interest and rents due and accrued				
22.	Market value of real estate <i>over book value</i> , per Schedule A.				
23.	* Market } value (not including interest in item 16) of Amortized or investment } bonds <i>over book value</i> , per Schedule D				
23A.	Market value of stocks <i>over book value</i> , per Schedule D				
24.	Due from other companies for paid losses or claims on policies of this company reinsured, per Schedule S.				

Non-Ledger Assets (Continued)		Dollars	Cents
	(1)	(2)	
	New business (paid-for basis)	Renewals	
25. Gross premiums due and unreported on policies in force December 31 of current year (less reinsurance premiums)	\$ _____	\$ _____	
26. Gross deferred premiums on policies in force December 31 of current year (less reinsurance premiums)	_____	_____	
27. Totals	\$ _____	\$ _____	
28. Deduct loading	_____	_____	
29. Net amount of uncollected and deferred premiums	\$ _____	\$ _____	
29A. Accident and health premiums due and unpaid			
30. All other assets (give items and amounts)			
31. _____			
32. _____			
33. _____			
34. _____			
35. Gross Assets			
Deduct Assets Not Admitted			
36. Company's stock owned, \$ _____; loans on \$ _____		\$ _____	
37. Supplies, stationery, printed matter, \$ _____, furniture and equipment \$ _____			
38. Committed commissions, \$ _____; agents' debit balances, gross \$ _____			
39. Cash advanced to or in the hands of officers or agents			
40. Loans on personal security, endorsed or not, \$ _____, bills receivable \$ _____			
41. Premium notes, policy loans and other policy assets in excess of net value and of other policy liabilities on individual policies			
41A. Accident and health premiums due and unpaid, effective prior to October 1			
42. Deposits in suspended banks, less \$ _____ estimated amount recoverable			
43. Book value of real estate <i>over market value</i> , per Schedule A			
44. Book value of bonds <i>over</i> $\left\{ \begin{array}{l} * \text{ market} \\ \text{amortized or} \\ \text{investment} \end{array} \right\}$ <i>value</i> , per Schedule D			
44A. Book value of stocks <i>over market value</i> , per Schedule D			
44B. Interest due and accrued on mortgage loans (state basis)			
44C. _____			
45. Other assets not admitted, viz:			
46. Total Admitted Assets			

* Strike out "Market" or "Amortized or investment."

V.—LIABILITIES, SURPLUS AND OTHER FUNDS	Dollars	Cents	Dollars	Cents	Dollars	Cents
Net present value of all the outstanding policies in force on December 31 of current year, as computed on the following tables of mortality and rates of interest, viz.:						
1. American Experience table at _____ per cent. on *						
2. American Experience table at _____ per cent. on *						
3. American Men table at _____ per cent. on *						
3A. Commissioners 1941 Standard Ordinary table at _____ per cent. on *						
4. Other tables and rates, viz *						
5. Net present value of annuities (including those in reduction of premiums). Give tables and rates of interest, viz						
Total						
6. Deduct net value of risks of this company reinsured in other solvent companies.						
7. NET RESERVE (paid-for basis), excluding disability.						
8. Reserve for additional accidental death benefits included in life policies, less \$ _____ reinsurance.						
9. Reserve for total and permanent disability benefits included in life and annuity contracts:						
(a) Active lives, less \$ _____ reinsurance						
(b) Disabled lives, less \$ _____ reinsurance . .						

* State definitely the dates of issue and class of policies covered by each basis of valuation.

V.—LIABILITIES, SURPLUS AND OTHER FUNDS (Continued)

Dollars Cents

- 9A. Unearned premium reserve on accident and health policies.
- 9B. Additional reserve on non-cancellable accident and health policies, less \$ _____ on policies reinsured.
- 9C. Present value of amounts not yet due on claims under accident and health policies.
10. Present value of amounts not yet due on supplementary contracts not involving life contingencies, excluding disability claims included in Item 9; valued at 3½% \$ _____, 3% \$ _____, _____% \$ _____, and _____% \$ _____
11. Liability on policies cancelled and not included in "net reserve" upon which a surrender value may be demanded.
12. Policy claims and losses outstanding:

	(1)	(2)	(3)	(4)
	Due but Unpaid	Incomplete Proofs Under Adjustment, or Adjusted but not Due	Resisted per Schedule F	Deduct Reinsurance
13. Death.				
14. Additional Accidental Death Benefits				
15. Disability Benefits				
16. Matured Endowments				
16A. Accident and Health.				
17. Annuities Involving Life Contingencies				
18. Totals				

	(5)	(6)	(7)
	Net Reported Outstanding Policy Claims and Losses	Estimated Net Losses Incurred but not yet Reported	Total Liability for Outstanding Policy Claims and Losses
13. Death.			
14. Additional Accidental Death Benefits			
15. Disability Benefits			
16. Matured Endowments			
16A. Accident and Health			
17. Annuities Involving Life Contingencies			
18. Totals			

V.—LIABILITIES, SURPLUS AND OTHER FUNDS (Continued)		Dollars	Cents
19. Due and unpaid on supplementary contracts <i>not</i> involving life contingencies			
19A. Estimated expenses of investigation and adjustment of accident and health claims.....			
20. Dividends left with the company to accumulate at interest, and accrued interest thereon...			
21. Gross premiums paid in advance, including surrender values so applied, less discount, if any, and \$_____ accident and health premiums.			
22. Unearned interest and rent paid in advance.			
23. Commissions to agents, due or accrued, including commissions due on premium notes when paid			
24. "Cost of collection" on uncollected and deferred premiums, in excess of the total loading thereon			
25. Salaries, rents, office expenses, bills and accounts due or accrued			
26. Medical examiners' fees \$_____, inspection of risks \$_____ and legal fees \$_____ due or accrued			
27. Estimated amount due or accrued for taxes			
28. Borrowed money, \$_____ and interest thereon, \$_____.			
29. Unpaid dividends to stockholders			
30. Dividends or other profits due policyholders, including those contingent on payment of outstanding and deferred premiums			
31. Estimated amount of dividends declared on or apportioned to <i>annual dividend</i> policies payable to policyholders to and including (month)_____ (day)_____, of following year, whether contingent upon the payment of renewal premiums or otherwise			
32. Estimated amount of dividends declared on or apportioned to <i>deferred dividend</i> policies payable to policyholders to and including (month)_____ (day)_____, of following year			
33. Amounts set apart, apportioned, provisionally ascertained, calculated, declared or held awaiting apportionment upon <i>deferred dividend</i> policies, not included in Item 32			
34. (a) Reserve to cover the non-deduction of deferred fractional premiums at the death of the insured (if not included in items 1-5 above)...			
35. All other liabilities (give items and amounts):			
36. _____			
37. _____			
38. _____			
39. Total amount of all liabilities, except capital			
40. (b) Special surplus funds:			
41. _____ \$_____			
42. _____			
43. Capital paid up.			
44. Unassigned funds (surplus)			
44A. Total of Items 41-44, inclusive			
45. Total			

(a) Do not calculate this extra reserve on the basis of yearly renewable term premiums

(b) Enter only voluntary and general contingency reserves, and other special surplus funds, not in the nature of liabilities.

GAIN AND LOSS

Showing the Sources of the Increases and

Insurance Exhibit	(1) Total	Allocation by Line of Business	
		(2) Industrial (In- cluding Total and Permanent Disability and Accidental Death Benefits)	Ordinary (3) Life Insurance
1. Premiums and other considerations 2. Dividend accumulations and supplementary contracts without life contingencies 3. Investment income (less \$_____ investment expenses including taxes) 4. * 5. Total Income 6. Deaths 7. Maturities, disabilities; annuities, accident and health benefits 8. Surrenders 9. Dividend accumulations and supplementary contracts without life contingencies 10. Commissions 11. Taxes, excluding \$_____ taxes deducted in Item 3 12. Other insurance expenses 12½. * 13. Total Disbursements 14. Increase in reserves on contracts involving life contingencies 15. Increase in reserves for dividend accumulations and supply contracts without life contingencies 16. Increase in other reserves and assets not admitted 17. Total Increase in Reserves 18. NET GAIN FROM INSURANCE (Item 5 less sum of Items 13 and 17)			
Investment Profit and Loss Exhibit	Total	Industrial	Ordinary and Group
19. Gross profit on sale or maturity 20. Increase by adjustment in book value 21. Gain from change in difference between book and admitted values 22. * 23. Totals 24. Gross loss on sale or maturity 25. Decrease by adjustment in book value 26. Loss from change in difference between book and admitted values 27. * 28. Totals 29. NET PROFIT FROM INVESTMENTS (Item 23 less Item 28)			
Miscellaneous and Surplus Exhibit	Total	Allocation of Dividends to Policyholders by Line of Business	
30. Surplus Dec 31 of previous year 31. Net gain from insurance (Item 18) 32. Net profit from investments (Item 29) 33. Surplus paid in or transferred from capital 34. * 35. Totals (Items 30 to 34) 36. Dividends to policyholders 37. Dividends to stockholders 38. Increase in reserve on account of change in valuation basis 38½. Increase in general contingency reserves 39. * 40. Surplus Dec. 31 of current year 41. Totals (Items 36 to 40)		Industrial Insurance \$_____ Ordinary Insurance _____ Personal A. and H. _____ Ordinary Annuities _____ Group Insurance _____ Group A. and H. _____ Group Annuities _____ Total \$_____	

† See "Instructions" attached.

* Other items (Describe fully).

EXHIBIT +

Allocation by Line of Business						Accident and Health	
Ordinary				Group			
(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Total and Permanent Disability	Accidental Death Benefits	Annuities (Excluding Disability Annuities)	Supplementary Contracts	Insurance	Annuities	Group	Personal

Assessments collected during year \$ _____

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